SELF-DIAGNOSTIC FUNCTION

# SERVICE MANUAL

# BA-4 CHASSIS

| MODEL | COMMANDER | DEST. | CHASSIS NO. |
|---|---|---|---|
| KV-27S40 | RM-Y165 | US | SCC-S01H-A |
| KV-27S40 | RM-Y165 | CND | SCC-S03E-A |
| KV-27S45 | RM-Y167 | US | SCC-S01J-A |
| KV-27S45 | RM-Y167 | CND | SCC-S03F-A |
| KV-27S65 | RM-Y167 | US | SCC-S01K-A |
| KV-27S65 | RM-Y167 | CND | SCC-S03G-A |
| KV-29SL40 | RM-Y165 | E | SCC-S04X-A |
| KV-29SL40A | RM-Y165 | E | SCC-S04S-A |
| KV-29SL40C | RM-Y165 | E | SCC-S04U-A |
| KV-29SL45 | RM-Y167 | E | SCC-S04Y-A |
| KV-29SL65 | RM-Y167 | E | SCC-S06F-A |
| KV-29SL65C | RM-Y167 | E | SCC-S04V-A |
| KV-29XL40M | RM-Y165 | MX | SCC-S02D-A |
| KV-29XL40P | RM-Y165 | E | SCC-S04R-A |
| KV-29XT11A | RM-Y165 | E | SCC-S04T-A |

KV-27S45

RM-Y167

MICROFILM

TRINITRON® COLOR TV

SONY®

# SPECIFICATIONS

| | KV-27S40<br>KV-29XL40M<br>KV-29XL40P<br>KV-29SL40 | KV-27S45<br>KV-27S65<br>KV-29SL65 | KV-29SL40A<br>KV-29SL40C<br>KV-29XT11A | KV-29SL45 | KV-29SL65C |
|---|---|---|---|---|---|
| Power Requirements | 120V,60Hz | 120V,60Hz | 220V,50/60Hz | 120V,60Hz | 220V,50/60Hz |
| Number of inputs/outputs | | | | | |
| Video [1] | 1 | 2 | 1 | 2 | 2 |
| S Video [2] | - | 1 | - | 1 | 1 |
| Audio [3] | 1 | 2 | 1 | 2 | 2 |
| Audio Out [4] | 1 | 1 | 1 | 1 | 1 |
| Speaker Output (W) | 5W x 2 | 5W x 2 | 5W x 2 | 10W x 2 | 10W x 2 |
| Power Consumption(W) | | | | | |
| In Use (Max) | 140W | 140W | 140W | 140W | 140W |
| In Standby | 2W | 2W | 3W | 2W | 3W |
| Dimensions (W/H/D) | | | | | |
| (mm) | 660.4 x 598 x 505.5mm | 660.4 x 598 x 505.5mm | 660.4 x 598 x 505.5mm | 660.4 x 598 x 505.5mm | 660.4 x 598 x 505.5mm |
| (in.) | 26 x $23^{1/2}$ x 20 in | 26 x $23^{1/2}$x20 in | 26 x $23^{1/2}$ x 20 in | 26 x $23^{1/2}$ x 20 in | 26 x $23^{1/2}$ x 20 in |
| Mass (kg) | 38 kg | 38 kg | 38 kg | 38 kg | 38 kg |
| (lbs) | 84 lbs | 84 lbs | 84 lbs | 84 lbs | 84 lbs |

[1] 1 Vp-p 75 ohms unbalanced, sync negative
[2] Y: 1 Vp-p 75 ohms unbalanced, sync negative
C: 0.286 Vp-p (Burst signal), 75 ohms
[3] 500 mVrms (100% modulation), Impedance: 47 kilohms
[4] More than 408 mVrms at the maximum volume setting (variable)

**Television system**
American TV standard
PAL-M, PAL-L, NTSC (KV-29SL40A,29XT11A only)

**Channel coverage**
VHF:2-13/UHF:14-69/CATV:1-125

**Visible screen size**
27-inch picture measured
29-inch picture measured

**Actual screen size**
27-inch picture measured
29-inch picture measured

**Antenna**
75 ohm external terminal for VHF/UHF

**Supplied Accessories**
Remote commander (w/2 size AA (R6) batteries)
RM-Y165: (KV-27S40,29SL40/A/C,29XL40M,29XL40P, 29XT11A)
RM-Y167: (KV-27S45, 27S65, 29SL45, 29SL65, 29SL65C)

**Optional Accessory**
Connecting Cables:
VMC-810S/820S, MC-720M, YC-15V/30V, RK-74A
TV Stand SU-27A3
U/V Mixer EAC-66

**(● )® SRS (SOUND RETRIEVAL SYSTEM)**

The ( ● ) SRS (SOUND RETRIEVAL SYSTEM) is manufactured by Sony Corporation under license from SRS Labs, Inc. It is covered by U.S. Patent No. 4,748,669. Other U.S. and foreign patents pending.

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***Design and specifications are subject to change without notice.***

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# WARNINGS AND CAUTIONS

**CAUTION!**

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

**WARNING!!**

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

**ATTENTION**

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

**ATTENTION!!**

AFIN D'EVITER TOUT RESQUE D'ELECTROCUTION PROVENANT D'UN CHÁSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÁSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

**ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!**

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT D'UNEIMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONTIONNEMENT SUSPECTE.

# SELF-DIAGNOSTIC FUNCTION

The units in this manual contain a self-diagnostic function. If an error occurs, the STANDBY/TIMER lamp will automatically begin to flash. The number of times the lamp flashes translates to a probable source of the problem. A definition of the STANDBY/TIMER lamp flash indicators is listed in the instruction manual for the user's knowledge and reference. If an error symptom cannot be reproduced, the remote commander can be used to review the failure occurrence data stored in memory to reveal past problems and how often these problems occur.

## 1. DIAGNOSTIC TEST INDICATORS

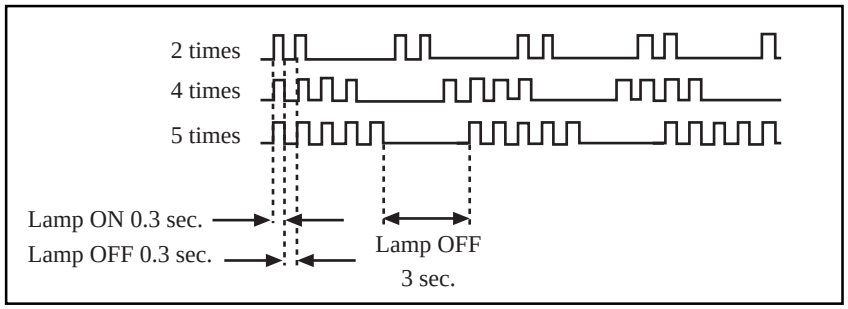
When an error occurs, the STANDBY/TIMER lamp will flash a set number of times to indicate the possible cause of the problem. If there is more than one error, the lamp will identify the first of the problem areas.

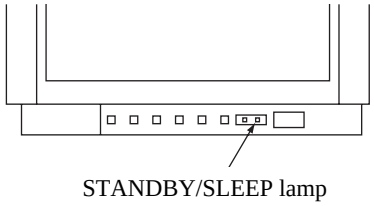
Results for all of the following diagnostic items are displayed on screen. No error has occured if the the screen displays a "0" .

| Diagnostic Item Description | No. of times STANDBY/TIMER lamp flashes | Self-diagnostic display/ Diagnostic result | Probable Cause Location | Detected Symptoms |
|---|---|---|---|---|
| * Power does not turn on | Does not light | ——— | * Power cord is not plugged in.<br>* Fuse is burned out (F5050) (E Board) | * Power does not come on.<br>* No power is suppled to the TV.<br>* AC power supply is faulty. |
| * +B overcurrent (OCP) | 2 times | 2:0 or 2:1 | * H.OUT (Q502) is shorted. (A board)<br>* IC1751 and Q1751 is shorted. (C board) | * Power does not come on.<br>* Load on power line is shorted. |
| * Vertical deflection stopped | 4 times | 4:0 or 4:1 | * +13V is not supplied. (A board)<br>* IC 541 is faulty (A board) | * Has entered standby state after horizontal raster.<br>* Vertical deflection pulse is stopped.<br>* Power line is shorted or power supply is stopped. |
| * White balance failure (not balanced) | 5 times | 5:0 or 5:1 | * Video OUT (Q306 to 308) is faulty. (A board)<br>* IC301 is faulty. (A board)<br>* G2 is improperly adjusted. (Note 2) | * No raster is generated.<br>* CRT cathode current detection reference pulse output is small. |

Note 1: If a +B overcurrent is detected, stoppage of the vertical deflection is detected simultaneously.
The symptom that is diagnosed first by the microcontroller is displayed on the screen.
Note 2: Refer to Screen (G2) Adjustment in Section 3-4 of this manual.

## 2. DISPLAY OF STANDBY/TIMER LIGHT FLASH COUNT




| Diagnostic Item | Flash Count* |
|---|---|
| +B overcurrent | 2 times |
| Vertical deflection stopped | 4 times |
| White balance failure | 5 times |

* One flash count is not used for self-diagnostic.

## 3. STOPPING THE STANDBY/TIMER FLASH

Turn off the power switch on the TV main unit or unplug the power cord from the outlet to stop the STANDBY/TIMER lamp from flashing.

## 4. SELF-DIAGNOSTIC SCREEN DISPLAY

For errors with symptoms such as "power sometimes shuts off" or "screen sometimes goes out" that cannot be confirmed, it is possible to bring up past occurances of failure for confirmation on the screen:

**[To Bring Up Screen Test]**

In standby mode, press buttons on the remote commander sequentially in rapid succession as shown below:

Screen display ➡ channel 5 ➡ Sound volume − ➡ Power ON

⇧

Note that this differs from entering the service mode (sound volume + ).

**Self-Diagnostic screen display**

```
SELF DIAGNOSTIC

2:          0  <----------Numeral "0" means that no fault has been detected.
3:    N/A   0
4:          0
5:          1  <----------Numeral "1" means a fault has been detected one time only.
101:  N/A   0
```

## 5. HANDLING OF SELF-DIAGNOSTIC SCREEN DISPLAY

Since the diagnostic results displayed on the screen are not automatically cleared, always check the self-diagnostic screen during repairs. When you have completed the repairs, clear the result display to "0".

Unless the result display is cleared to "0", the self-diagnostic function will not be able to detect subsequent faults after completion of the repairs.

**[Clearing the result display]**

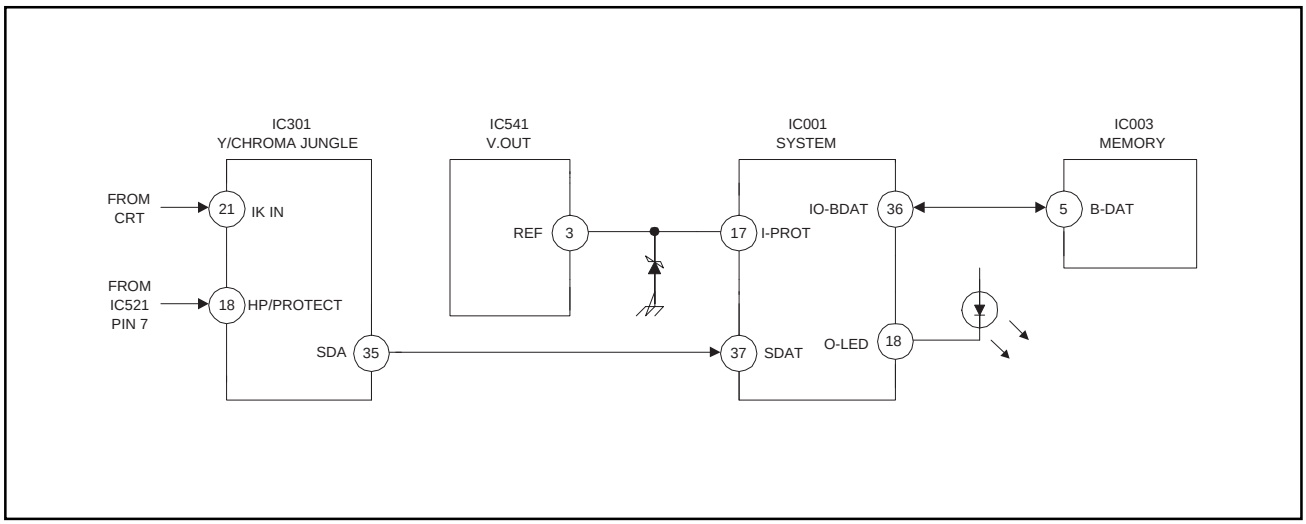
To clear the result display to "0", press buttons on the remote commander sequentially as shown below when the diagnostic screen is being displayed.

Channel 8 ➡ ENTER

**[Quitting Self-diagnostic screen]**

To quit the entire self-diagnostic screen, turn off the power switch on the remote commander or the main unit.

## 6. SELF-DIAGNOSTIC CIRCUIT




| | |
|---|---|
| +B overcurrent (OCP) | Occurs when an overcurrent on the +B(115V) line is detected by pin 18 of IC301. If the voltage to pin 18 of IC301 is less than 1V when V.SYNC is more than seven verticals in a period, the unit will automatically turn off. |
| Vertical deflection stopped | Occurs when an absence of the vertical deflection pulse is detected by pin 17 of IC001. Power supply will shut down when waveform interval exceeds 2 seconds. |
| White balance failure | If the RGB levels* do not balance within 2 seconds after the power is turned on, this error will be detected by IC301. TV will stay on, but there will be no picture. |

*(Refers to the RGB levels of the AKB detection Ref pulse that detects IK.)

# SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

## LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampere). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63Trd are examples of passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

## HOW TO FIND A GOOD EARTH GROUND

A cold-water pipe is guaranteed earth ground; the cover-plate retaining screw on most AC outlet boxes is also at earth ground. If the retaining screw is to be used as your earth-ground, verify that it is at ground by measuring the resistance between it and a cold-water pipe with an ohmmeter. The reading should be zero ohms. If a cold-water pipe is not accessible, connect a 60-l00 watts trouble light (not a neon lamp) between the hot side of the receptacle and the retaining screw. Try both slots, if necessary, to locate the hot side of the line, the lamp should light at normal brilliance if the screw is at ground potential. (See Fig. B)

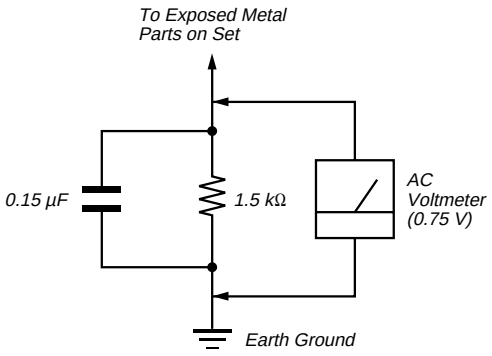



*Fig. A. Using an AC voltmeter to check AC leakage.*

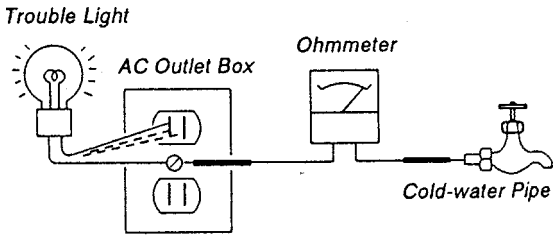



*Fig B. Checking for earth ground.*

# SECTION 1
# GENERAL

The instructions mentioned here are partial abstracts from the Operating Instruction Manual.
The page numbers shown reflect those of the Operating Instruction Manual.

## Connecting and Installing the TV

### Making Connections

Refer to the table below, it will direct you to the diagram suitable to the components you will be connecting.


| If you will be connecting | See page |
|---|---|
| Cable or antenna only | 5 |
| Cable and antenna (KV-27S65, 27V65 only) | 5 |
| Cable box | 6 |
| Cable box and cable to view scrambled channels (KV-27S65, 27V65 only) | 6 |
| VCR and cable or antenna | 7 |
| VCR and cable box | 7 |
| Direct Broadcast Satellite Receiver (DBS) | 8 |
| VCR and Direct Broadcast Satellite Receiver (DBS) | 9 |
| Digital Versatile Disc receiver (DVD) | 10 |
| Audio system | 10 |
| Two VCRs for tape editing (KV-27V40, 27V45, 27V65 only) | 11 |
| Camcorder to view tapes | 11 |



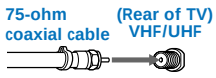

### Cable or Antenna Connections

#### Connecting directly to cable or an antenna

The connection you choose will depend on the cable found in your home. Newer homes will be equipped with standard coaxial cable (see **A**); older homes will probably have 300-ohm twin lead cable (see **B**); still other homes may contain both (see **C**).

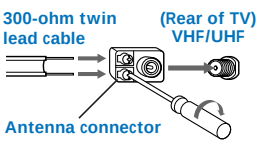
**A**

- VHF only
  or
- VHF/UHF
  or
- Cable

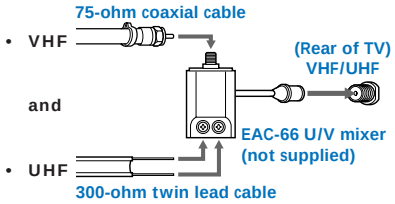



**B**

- VHF only
  or
- UHF only
  or
- VHF/UHF




**C**

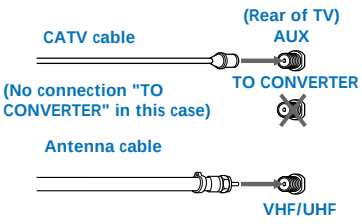



#### Cable and antenna

• **KV-27S65, 27V65 only**

If your cable provider does not feature local channels, you may find this set up convenient.

Select Cable or ANT mode by pressing ANT on the remote control. You will be able to alternate between the two input sources.




**Note**

- In order to receive channels with an antenna, you will need to turn your CABLE to OFF (see page 23) and perform the AUTO PROGRAM function.

## Connecting and Installing the TV (continued)

### Cable Box Connections

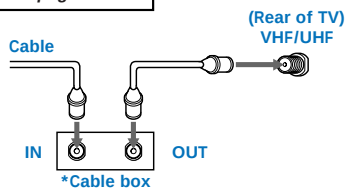
Some pay cable TV systems use scrambled or encoded signals that require a cable box* to view all channels.

#### Cable box

1 Connect the coaxial connector from your cable or antenna to the IN on your cable box.

2 Using a coaxial cable, connect OUT on your cable box to VHF/UHF on your TV.

*If you will be controlling all channel selection through your cable box, you should consider using the CHANNEL FIX feature discussed on page 23.*

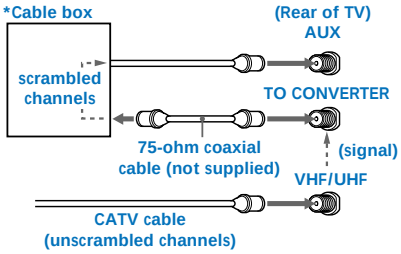



#### Cable box and cable

• **KV-27S65, 27V65 only**

For this set up, you can switch between scrambled channels (through your cable box), and normal (CATV) channels by pressing ANT on your remote control.

*If you are connecting a cable box through the AUX input and would like to switch between the AUX and normal (CATV) input you should consider using the CHANNEL FIX feature discussed on page 23.*




#### Notes

- Your Sony remote control can be programmed to operate your cable box. (see page 28)
- When using PIP, you cannot view the window picture with the AUX input.



### VCR Connections

#### Connecting an antenna/cable TV system with a VCR

1 Attach the coaxial connector from your cable or antenna to IN on your VCR.

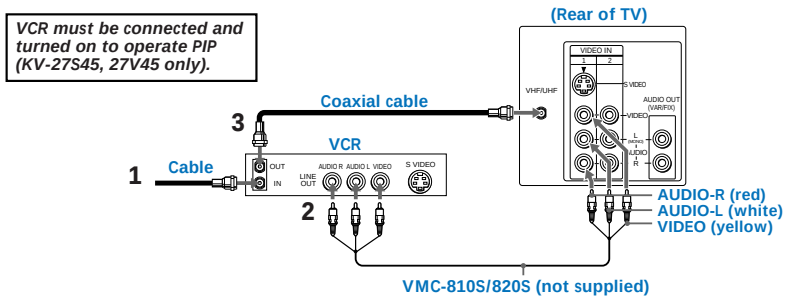
2 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV (Yellow-VIDEO, White-AUDIO Left, Red-AUDIO Right).*

3 Using a coaxial connector, connect OUT on your VCR to VHF/UHF on your TV.

* If you are connecting a monaural VCR, connect only the single white audio output to the left input on your TV.

*Disconnect all power sources before making any connections.*

*VCR must be connected and turned on to operate PIP (KV-27S45, 27V45 only).*




#### Connecting a VCR and TV with a cable box

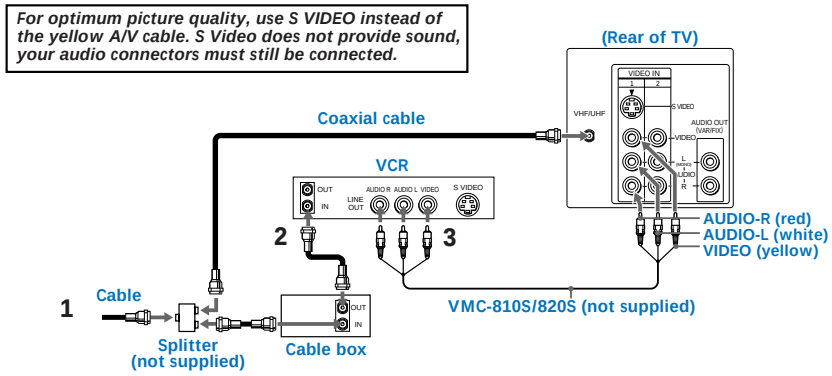
You will need a splitter (not supplied) for the following connection.

1 Connect the single (input) jack of the splitter to your incoming cable connection. Connect the other two (output) jacks (using coaxial cable) to IN on your cable box and VHF/UHF on your TV.

2 Using a coaxial connector, connect OUT on your cable box to IN on your VCR.

3 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV (Yellow-VIDEO, White-AUDIO Left, Red-AUDIO Right).

*For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S Video does not provide sound, your audio connectors must still be connected.*



# Connecting and Installing the TV (continued)

## DBS Connections

### Connecting a DBS (Direct Broadcast Satellite) receiver

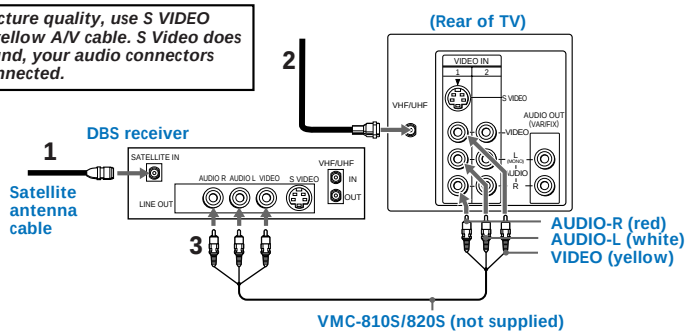
1 Connect the cable from your satellite antenna to your DBS receiver.

2 Attach the coaxial connector from your cable or antenna to VHF/UHF on your TV.

3 Using A/V connectors, connect AUDIO and VIDEO OUT on your DBS receiver to AUDIO and VIDEO IN on your TV.

*Disconnect all power sources before making any connections.*

*For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S Video does not provide sound, your audio connectors must still be connected.*






## DBS Connections (continued)

### Connecting a DBS (Direct Broadcast Satellite) receiver and a VCR

1 Connect the cable from your satellite antenna to your DBS receiver.

2 Attach the coaxial connector from your cable or antenna to VHF/UHF IN on your VCR.

3 Using a coaxial connector, connect VHF/UHF OUT on your VCR to VHF/UHF on your TV.

4 Using A/V connectors, connect AUDIO and VIDEO OUT on your DBS receiver to AUDIO and VIDEO IN on your VCR.

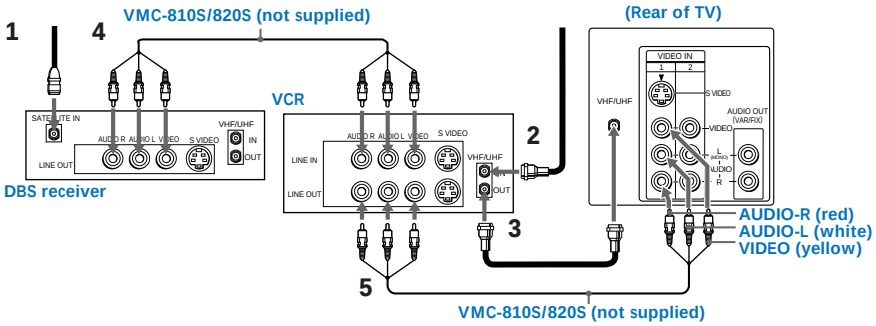
5 Using A/V connectors, connect AUDIO and VIDEO OUT on your VCR to AUDIO and VIDEO IN on your TV.

**Note**

- To view from the DBS or VCR, select the video input to which your DBS receiver or VCR is connected by pressing TV/VIDEO on the remote control.

*Disconnect all power sources before making any connections.*

*For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S Video does not provide sound, your audio connectors must still be connected.*



# Connecting and Installing the TV (continued)

## Additional Connections

The following connections are for accessories that will enhance your viewing options.

### Connecting a DVD Player

1 Using A/V connectors, connect LINE OUT on your DVD to VIDEO IN on your TV (Red-AUDIO Right, White-AUDIO Left, Yellow-VIDEO).

**Note**

- For the best picture quality, connect the DVD player directly to the TV.

### Connecting an audio system

For enhanced sound, connect your audio system to your TV.

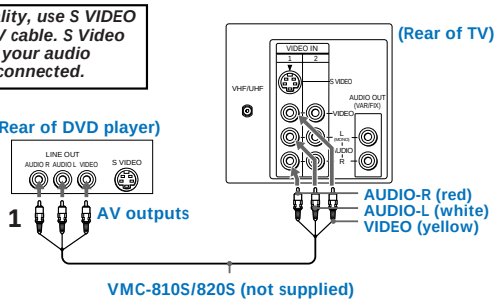
1 Using AUDIO connectors, connect AUDIO OUT on your TV to one of the unused line inputs (e.g. TV, AUX, TAPE 2) on your stereo (White-AUDIO Left, Red-AUDIO Right).

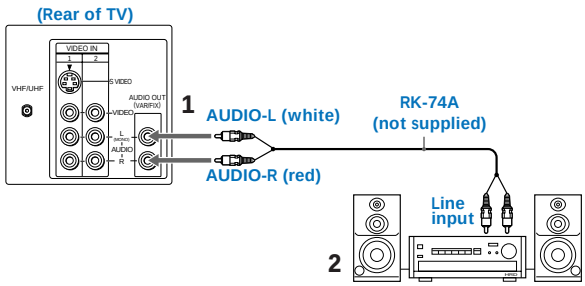
2 Set your stereo to the chosen line input (e.g. TV, AUX, TAPE 2). Refer to page 20 of this manual for additional audio setup instructions.



***Disconnect all power sources before making any connections.***

***For optimum picture quality, use S VIDEO instead of the yellow A/V cable. S Video does not provide sound, your audio connectors must still be connected.***




### Connecting two VCRs for tape editing using MONITOR OUT

- **KV-27V40, 27V45, 27V65 only**

MONITOR OUT gives you the ability to use a second VCR to record a program being played by the primary VCR or to perform tape editing and dubbing.

1 Connect the VCR intended for playback using the setup instructions on page 7 of this manual.

2 Using A/V connectors, connect AUDIO and VIDEO IN on your VCR intended for recording to MONITOR AUDIO and VIDEO OUT on your TV.

### Connecting a camcorder

This connection is convenient for viewing a picture directly from your camcorder.

Using A/V connectors, connect AUDIO and VIDEO OUT on your camcorder to AUDIO and VIDEO IN on your TV (Yellow-VIDEO, White-AUDIO Left, Red-AUDIO Right).

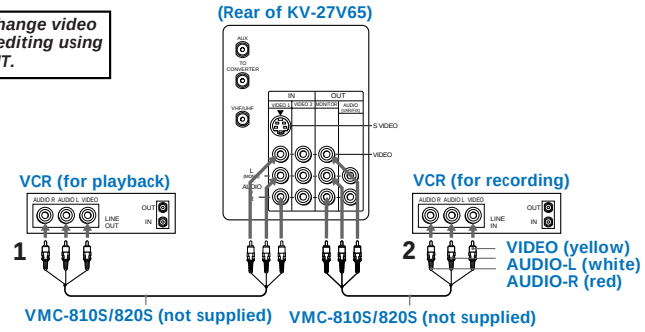
Connection can also be made directly to your A/V input located on the rear of your TV.

**Note**

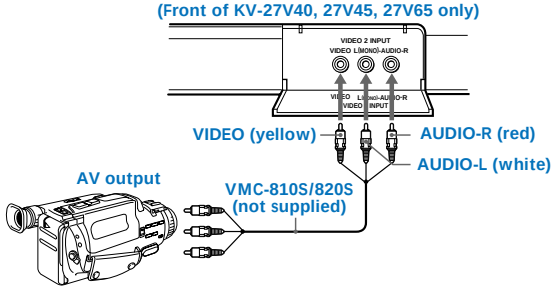
- If you are connecting a monaural camcorder, connect only the single white audio output to the left input on your TV.

***Disconnect all power sources before making any connections.***

***You cannot change video inputs while editing using MONITOR OUT.***



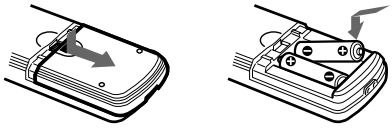

***If you have an S Video equipped camcorder, you can use an S Video connection for optimum picture quality.***



# Basic Set up

## Inserting batteries

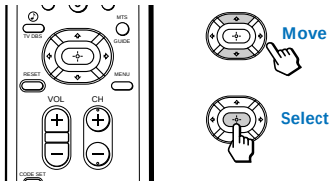
Insert two size AA (R6) batteries (supplied) by matching the + and – on the batteries to the diagram inside the battery compartment.



**Notes**

- Remove the batteries to avoid damage from possible battery leakage whenever you anticipate that the remote control will not be used for an extended period.
- Handle the remote control with care. Avoid dropping it, getting it wet, or placing it in direct sunlight, near a heater, or where the humidity is high.
- Your remote control can be programmed to operate most video equipment. (see page 26)

## Using the remote control, Move & Select buttons




The supplied remote control has "arrow" buttons (↑, ↓, ←, →) which allow for movement of the on-screen selector in four directions. Pressing on the outer buttons will cause the selector to *move* in the corresponding direction. Pressing the center button ( ⊕ ) will select the item.

### Adjustments bars

When menu items present an adjustment bar ( or ), use the arrow buttons to change the setting.

## On-Screen Help/Instructions

Several menu windows will provide prompts and instructions to assist you in navigating through the different functions. *When presented, use these to supplement the instructions in this manual.*

**Note**

- To reset your TV to factory settings, turn the TV on. Then, while pressing the RESET button, press the POWER key on your TV. The TV will turn itself off, then back on. (except KV-20V80).



# Using your New TV

## Setting up the TV automatically

The Easy Setup Guide allows you to set the on-screen language and set all receivable channels. The Easy Setup Guide screen appears every time you turn on the TV until you perform AUTO PROGRAM.

The Easy Setup Guide feature does not apply for installations that use a cable box for all channel selection.

*To set up the TV manually, refer to "Using the SET UP menu" on page 23.*

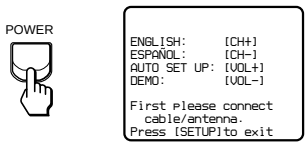
***Tips***

- Perform this function during the day, with the antenna and/or cable properly connected, to ensure that all available channels will be broadcasting and receivable.
- After using the Easy Setup Guide you will still have the option of adjusting any of the system settings, like skipping channels, through the SET UP menu (page 24).
- The TV must be set to the TV input to execute AUTO PROGRAM. Press ANT until a channel number appears.
- If your cable or antenna is connected to AUX, then press ANT until AUX appears next to the channel number. (KV-27S65, 27V65 only)

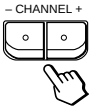
Using the buttons on the front of the TV:

For KV-27V65, the control buttons are located on the top of the TV.

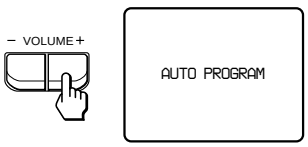
**1** Press POWER to turn on the TV.
The Easy Setup Guide screen appears.




**2** (except Canadian models)
Press CH + to select English screens or CH – to select Spanish screens.




**3** Press VOL + to continue or VOL – for a DEMO of functions and menus.




AUTO PROGRAM appears and the TV starts scanning and presetting channels automatically. When all the receivable channels are stored, the lowest numbered channel is displayed. If the TV receives cable TV channels, CABLE is set ON automatically.

### To perform AUTO SET UP again

- Press SET UP on the TV.
- Press CH + or CH – to select a language.
- Press VOL + to restore factory settings (CONTINUE TO AUTO PROGRAM? will appear on the screen). Press CH + to continue or CH – to exit.
- Press SET UP to exit.

**Note**

- When you perform AUTO PROGRAM, your CHANNEL FIX, CHANNEL BLOCK and ON/OFF TIMER settings will be erased.

# Using your New TV (continued)

## Watching the TV

All of the TV features can be accessed via the remote control. The following chart will explain the function of the buttons found on your remote control.

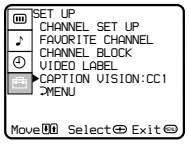
***REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART***

| Using the White Labeled Buttons for TV Operations. | |
|---|---|
| FUNCTION<br>VTR/DVD DBS/CABLE TV | Activate the remote control for use with the following components: TV, DBS/CABLE, VTR/DVD. Press when you want to control connected components with your remote control. (see pages 26-28 for instructions on programming your remote control) |
| POWER<br>TV | Turns the TV on and off. If VIDEO appears on the screen, press TV/VIDEO or ANT until a channel number appears. |
| 0 - 9 | Use for direct channel selection. Press 0-9 to select a channel, the channel will change after 2 seconds, or you can press ENTER for immediate selection. |
| CH | Press to scan through the channels.<br>*Keeping the CH + or – pressed allows you to rapidly scan to the desired channel.* |
| JUMP | Press to alternate or *jump* back and forth between two channels. You can jump between the last two channels selected with the 0-9 keys. |
| MUTING | Press to mute the sound (MUTING will appear on the screen). Press again or press VOL + to restore sound. |



| Using the White Labeled Buttons for TV Operations. | |
|---|---|
| FREEZE | Press to freeze the window picture while in PIP mode. If you are not in PIP mode, pressing FREEZE will cause the main picture to freeze into a window picture.<br>*Great for copying down phone numbers, addresses, recipes, etc.* |
| SLEEP | Press repeatedly until the TV displays the approximate time in minutes (30, 60, or 90) that you want the TV to remain on before shutting off automatically.<br>Cancel by pressing until SLEEP OFF appears. |
| DISPLAY | Press repeatedly to step through available displays:<br>**Status**<br>Channel number, current time, channel caption (if set) and Multi-Channel TV Sound (MTS) are displayed.<br>*The MTS mode indication disappears after three seconds.*<br>**CAPTION VISION**<br>CAPTION VISION will be displayed on the screen if the broadcaster offers this service. (see right)<br>To cancel the display, press DISPLAY repeatedly until DISPLAY OFF appears.<br>*DISPLAY OFF disappears after three seconds.* |
| TV/VIDEO | Press repeatedly to step through available video inputs:<br>**TV** and **VIDEO 1** (KV-27S40 only)<br>**TV, VIDEO 1** and **VIDEO 2** (KV-20V80, 27S45, 27S65, 27V40 only)<br>**TV, VIDEO 1, VIDEO 2** and **VIDEO 3** (KV-27V45, 27V65 only) |
| ANT<br>*(AUX input)* | Press to change the VHF/UHF input to the AUX input (KV-27S65, 27V65 only).<br>*For detailed connection information, see "Cable and antenna" or "Cable box and cable" on pages 5-6.* |
| TV/VTR<br>+ | Press when you are finished using a VCR and you want to switch to the TV input. Your VCR power will remain on. |
| MTS<br>GUIDE | Press this button to cycle through the Multi-channel TV Sound (MTS) options. (see page 21).<br>GUIDE is a feature of DBS, refer to your DBS operation instructions. |

**CAPTION VISION**
*(Closed Caption)*




Some programs are broadcast with CAPTION VISION.

**CC1, 2, 3 or 4**
Shows you a printed version of the dialog or sound effects of a program. (The mode should be set to CC1 for most programs)

**TEXT1, 2, 3 or 4**
Shows you network/station information presented using either half or the whole screen. It is not usually related to the program.

**XDS (Extended Data Service)**
Shows a network name, program name, program length, and time of the show if the broadcaster offers this service.

### Note

- Poor reception of TV programs can cause errors in CAPTION VISION and XDS. Captions may appear with a white box or other errors instead of intended text.

## Watching two programs at one time - PIP

The Picture-in-Picture (PIP) feature allows you to view two channels simultaneously, one in the full size "main" picture and one in a smaller "window" picture. This means that two separate tuners must be available to provide the two signals.

Certain models (KV-27S45, 27V45 only) are equipped with a single tuner. This simply means that a VCR must be connected and turned on for PIP to operate.

Tip

To ensure a correct single tuner PIP connection (KV-27S45, 27V45 only), make sure the following list is complete before using PIP:

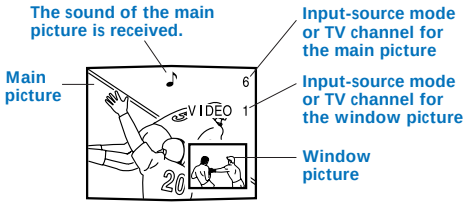
- A cable or antenna is connected to the VCR
- The VCR is connected to your TV
- The VCR is turned on

(for detailed connection information, see pages 5-7)

**Note**

- You must press TV (FUNCTION) before you can control PIP with the yellow labeled buttons.




The sound of the main picture is received.
Input-source mode or TV channel for the main picture
Main picture
Input-source mode or TV channel for the window picture
VIDEO 1
Window picture

*REFER TO THE ILLUSTRATION OF THE REMOTE CONTROL ON THE INSIDE FRONT COVER OF THIS MANUAL AS YOU REVIEW THIS CHART*

| Use the Yellow Labeled Buttons for PIP Operations. | |
|---|---|
| PIP ⏩ | Press once to display the window picture (1/9 size).<br>Press again to reduce the size of the window picture (1/16 size).<br>Press a third time to remove the window picture. |
| TV/VIDEO ⏺ | Press repeatedly to step through available video inputs:<br>**TV, VIDEO 1, VIDEO 2, and VIDEO 3** (KV-27S45, 27S65, 27V45, 27V65 only)<br>*If you have a single tuner, your PIP input source is the VCR.* |
| AUDIO ⏸ | Press to alternate sound between the main picture and the window picture. A ♪ will appear for a few seconds to indicate which picture is receiving sound. |

| Use the Yellow Labeled Buttons for PIP Operations. | |
|---|---|
| TV/VTR<br>+ CH –<br>◯ | Press to change the TV channel in the window picture. (KV-27S65, 27V65 only)<br>For models KV-27S45, 27V45, you must press VTR/DVD (FUNCTION), then use the main CH +/- buttons to change channels. (see right) |
| POSITION ■ | Press to move the location of the window picture (counterclockwise) around the main picture. |
| FREEZE ⏪ | Press to freeze the window picture. Great for copying down phone numbers, addresses, recipes, etc.<br>*Press FREEZE again to restore the previous screen(s).* |
| SWAP ⏩ | Press to switch the audio and video of the main picture and the window picture. Each time you press SWAP, the picture and sound of the two will be *swapped.*<br>*Any channels being received through the AUX jack cannot be displayed as a window picture. (KV-27S65, 27V65 only)* |

### Changing channels with a single tuner PIP

- **KV-27S45, 27V45 only**

**1** Press TV/VIDEO until you reach the TV input.

**2** Press PIP (the window picture appears).

**To change the window picture:**

**1** Press VTR/DVD (FUNCTION).

**2** Press the main CH +/– buttons to change channels.

**To change the main picture:**

**1** Press TV (FUNCTION).

**2** Press the main CH +/– buttons to change channels.

**Note**

- If you have the same program in both the window and the main picture and cannot change the channel in the window; press TV/VIDEO until you reach the TV input in the main picture.

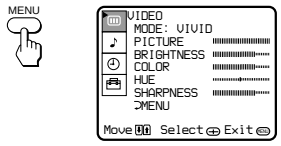
# Using your Menus

## Learning menu selection

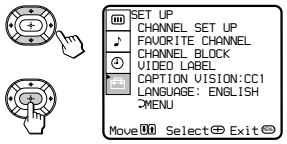
Use the MENU button to access a menu and use the select buttons (▲ or ▼) to alter settings. Use the following example, in which we activate the CABLE, to learn how to modify settings.

**1** Press the MENU button.

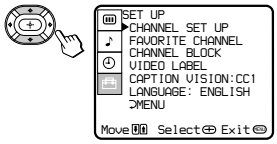
The main menu appears.




**2** Press ▲ or ▼ to highlight the desired menu (in this case SET UP) and press ⊕ to select it.

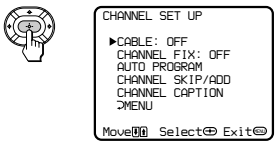



**3** Press ▲ or ▼ to move to the desired option.

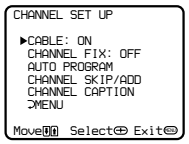



**4** Press ⊕.

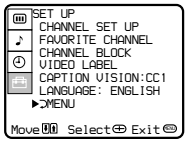
Options for your selection will be displayed.




**5** Press ▲ or ▼ to make your selection and press ⊕.




When you are finished making changes to the selected menu, choose ↩MENU to return to the main menu.

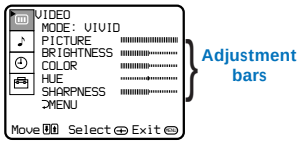



### Notes

- Pressing MENU on the remote control will allow you to exit from the menus at any time.
- If any menu items are "blacked out", press the ANT button on your remote control until a channel number appears.

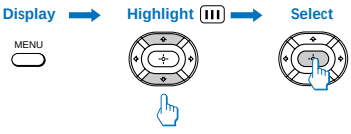


## Using the VIDEO menu




For detailed information on using the remote to modify menu settings, refer to "Learning menu selection" on page 18.

### To select the VIDEO menu:



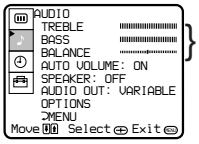

### To restore the factory VIDEO settings

Press RESET while the VIDEO menu is displayed.

| | |
|---|---|
| **MODE** *Customized picture viewing* | (except KV-20V80)<br>**VIVID:** Select to receive a vivid, bright picture.<br>**STANDARD:** Select to receive a standard picture.<br>**MOVIE:** Select to receive a softened picture. |
| **PICTURE** *Picture Adjustment* | Adjust left to decrease picture contrast and soften the color.<br>Adjust right to increase picture contrast and create more vivid color. |
| **BRIGHTNESS** *Picture Adjustment* | Adjust left to darken the picture.<br>Adjust right to brighten the picture. |
| **COLOR** *Picture Adjustment* | Adjust left to decrease color intensity.<br>Adjust right to increase color intensity. |
| **HUE** *Picture Adjustment* | Adjust left to decrease the green tones.<br>Adjust right to increase the green tones. |
| **SHARPNESS** *Picture Adjustment* | Adjust left to soften the picture.<br>Adjust right to sharpen the picture. |

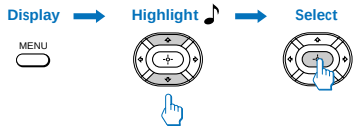
# Using your Menus (continued)

## ♪ Using the AUDIO menu




For detailed information on using the remote to modify menu settings, refer to "Learning menu selection" on page 18.

### To select the AUDIO ♪ menu:




### To restore the factory AUDIO settings

Press RESET while the AUDIO menu is displayed.

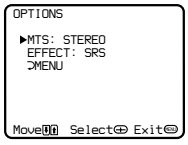
Tip

Press ♪ for direct selection of an AUDIO setting.

| | |
|---|---|
| **TREBLE** | Adjust left or right to decrease or increase higher pitched sound |
| **BASS** | Adjust left or right to decrease or increase low pitched sounds. |
| **BALANCE** | Adjust left or right to emphasize speaker volume. |
| **AUTO VOLUME**<br>*Stabilizes volume* | (KV-27V40, 27V45, 27V65 only).<br>**ON:** Select to stabilize the volume when changing channels.<br>**OFF:** Select to turn AUTO VOLUME off. |
| **SPEAKER**<br>*Custom selection of audio output source* | **ON:** Select to listen to the sound from the TV speakers and a separate stereo system.<br>**OFF:** Select to turn off the TV speakers and listen to the TV's sound only through external audio system speakers. |
| **AUDIO OUT**<br>*Use to control the TV's volume through a stereo* | AUDIO OUT can only be set when speakers are set to OFF.<br>**VARIABLE:** Sound output varies according to the TV settings.<br>*Useful when you want to use your remote control to control the output of a separate audio system.*<br>**FIXED:** Sound output is held at a fixed level through your stereo. |

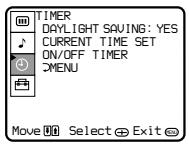


| | |
|---|---|
| **OPTIONS**<br>*Enhanced audio options* | With the OPTIONS menu open:<br>**1** Press ⊕ to access the feature you want to change.<br>**2** Press ↑ or ↓ to cycle through the options.<br>**MTS:** Press ↑ or ↓ to select one of the following options:<br>**STEREO**: Select for stereo reception when viewing a broadcast in stereo.<br>**SAP**: Select to listen to bilingual broadcast. (Non-SAP programs will be muted when this feature is selected.)<br>**MONO**: Select for mono reception (use to reduce noise during stereo broadcasts.)<br>***Quick MTS access:*** *Press MTS on your remote control to cycle through the MTS options.*<br>**EFFECT:** Press ↑ or ↓ to select one of these customized effects based on the program you are viewing:<br>**SRS**: Produces a dynamic three dimensional sound for stereo audio signals. (KV-27V40, 27V45, 27V65 only)<br>**SURROUND**: Simulates theater quality sound (only for stereo programs). (KV-20V80, 27S40, 27S45, 27S65 only)<br>**SIMULATED**: Adds a surround-like effect to mono programs. (KV-27V40, 27V45, 27V65 only) |



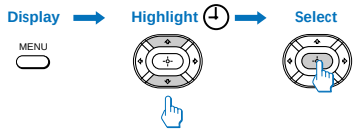
# Using your Menus (continued)

## Using the TIMER menu




For detailed information on using the remote to modify menu settings, refer to "Learning menu selection" on page 18.

### To select the TIMER menu:

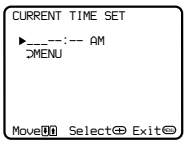
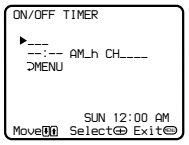



### To cancel the ON/OFF TIMER function

Press RESET while the TIMER menu is displayed.

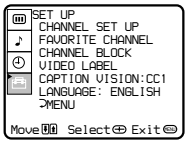
Tip

Set daylight saving time before setting the clock. Any loss of power will cause these settings to be erased.

| | |
|---|---|
| **DAYLIGHT SAVING**<br>*Automatically adjusts the time.* | **Spring:** Select YES to compensate for Daylight Saving Time.<br>*The current time automatically moves one hour ahead.*<br>**Fall:** Select NO at the end of Daylight Saving Time.<br>*The current time moves back one hour.* |
| **CURRENT TIME SET**<br>*Necessary for the TIMER.* | CURRENT TIME SET menu will appear.<br>**1** Press ⊕.<br>**2** Press ↑ or ↓ until the current day is displayed. Press ⊕ to select.<br>**3** Press ↑ or ↓ until the current hour and AM/PM is displayed. Press ⊕ to select.<br>**4** Press ↑ or ↓ until the current minute is displayed, press ⊕.<br>The clock is set. Press MENU to exit.<br>  |
| **ON/OFF TIMER**<br>*Wake up or scheduled viewing.* | ON/OFF TIMER menu will appear.<br>**1** Press ⊕.<br>**2** Press ↑ or ↓ until the desired day or range of days is displayed. Press ⊕ to select.<br>**3** Indicate the time that you want the TV to turn on by pressing ↑ or ↓ and then ⊕.<br>**4** Set the time duration (maximum of 6 hours) by pressing ↑ or ↓ and then ⊕.<br>**5** Press ↑ or ↓ until you reach the desired channel. Press ⊕ to select.<br>The ON/OFF TIMER is now set. Press MENU to exit.<br>*When you perform AUTO PROGRAM, all ON/OFF TIMER settings will be erased.*<br>  |

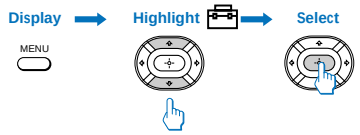


## Using the SET UP menu



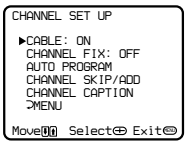
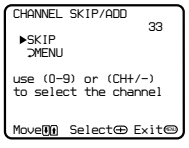

For detailed information on using the remote to modify menu settings, refer to "Learning menu selection" on page 18.

### To select the SET UP menu:



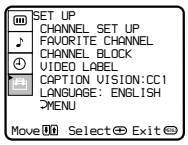

### Notes

- The FAVORITE CHANNEL feature is not available for the AUX input.
- Your remote control can be programmed to operate your cable box. (see page 28)

| | |
|---|---|
| **CHANNEL SET UP**<br>*Basic set up options for viewing* | With the CHANNEL SET UP menu open:<br>**1** Use ↑ or ↓ to access the feature you want to change.<br>**2** Press ⊕ to select the feature.<br>**CABLE:** Select ON if your TV is connected to a cable system. (After setting CABLE, you will need to run AUTO PROGRAM.)<br>  <br>**CHANNEL FIX:** Press ⊕ and then use the ↑ or ↓ buttons to set the TV's input to one of the following options:<br>**2-6:** When a cable box is connected to the VHF/UHF input. Press DBS/CABLE (FUNCTION) and then CH +/– to change channels.<br>**AUX 2-6:** When a cable box is connected to AUX and a cable or antenna is connected to VHF/UHF. You can alternate between the two inputs by pressing ANT on the remote control. (KV-27S65, 27V65 only)<br>**VIDEO 1:** When you have connected video equipment (e.g. A/V receiver) and you want the TV input fixed to it. You will be able to alternate between video sources using the A/V receiver.<br>**OFF:** When you want to switch CHANNEL FIX off. Press ANT on the remote control until you reach a picture.<br>*ON/OFF TIMER and CHANNEL BLOCK settings will be erased when CHANNEL FIX is set.*<br>**AUTO PROGRAM:** Instructs the TV to automatically program all receivable channels.<br>**CHANNEL SKIP/ADD:**<br>With the CHANNEL SKIP/ADD window open:<br>**1** Place the cursor next to SKIP or ADD. (only one option will be displayed)<br>**2** Choose the desired channel using CH +/–, or by selecting with the 0-9 buttons and pressing ENTER.<br>**3** Press ⊕ to activate.<br>  |

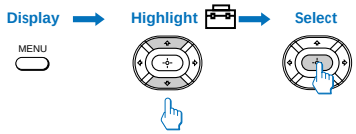
# Using your Menus (continued)

## Using the SET UP menu (continued)



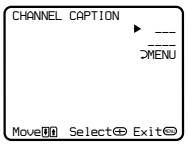
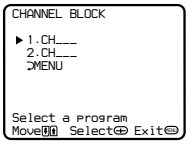

For detailed information on using the remote to modify menu settings, refer to "Learning menu selection" on page 18.

### To select the SET UP menu:

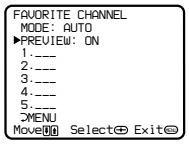
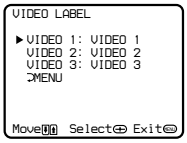



### To erase the CHANNEL BLOCK settings

Press RESET while the SET UP menu is displayed.

| | |
|---|---|
| **CHANNEL SET UP (continued)**<br>*Basic set up options for viewing* | **CHANNEL CAPTION:** You will be able to label up to 12 channels with their call letters.(except KV-20V80)<br>With the CHANNEL CAPTION menu open:<br>**1** Press ⊕ and then ↑ or ↓ to access the desired channel, and press ⊕ again.<br>**2** Press ↑ or ↓ to display the first letter or number of the caption and press ⊕ to select it.<br>**3** Press ⊕ to activate. To erase a caption, press RESET.<br>  |
| **CHANNEL BLOCK**<br>*Prevent child access to certain channels.* | You will be able to block two channels.<br>With the CHANNEL BLOCK window open:<br>**1** Choose 1 or 2 and press ⊕.<br>**2** Press ↑ or ↓ to display the channel you want to block.<br>**3** Press ⊕ to activate.<br>When you select the blocked channel, BLOCKED will appear on the screen. CAPTION VISION will also be blocked.<br>*When you perform AUTO PROGRAM, your CHANNEL BLOCK settings will be erased.*<br>  |



| | |
|---|---|
| **FAVORITE CHANNEL**<br>*Quick access to favorite channels* | **Setting FAVORITE CHANNEL:**<br>**1** Press ⊕ and then ↑ or ↓ to select AUTO or MANUAL. (Selecting AUTO will display the last five channels chosen with the remote control.)<br>**2** Press ↑ or ↓ to move the cursor to 1, 2, 3, 4 or 5 and press ⊕.<br>**3** Press ↑ or ↓ to access the desired channel and press ⊕ .<br>**4** For KV-27S65, 27V65 only, you can preview your favorite channels in the window picture, to do so, set PREVIEW to ON.<br>**Using FAVORITE CHANNEL:**<br>**1** Press ⊕ when in normal viewing mode. Your FAVORITE CHANNEL options will appear.<br>**2** Press ↑ or ↓ to access the channel you want to watch, and press ⊕.<br>**3** For models KV-27S65, 27V65 only, if PREVIEW is ON, a window picture displays your favorite channels as you cycle through the options.<br>  <br> |
| **VIDEO LABEL**<br>*Easy recognition of connected equipment (e.g. DBS, VHS, etc.)* | This feature allows you to label each input mode so that you can easily identify connected equipment (e.g. you can label VIDEO 1 as VHS). (except KV-20V80)<br>With the VIDEO LABEL window open:<br>**1** Press ↑ or ↓ to move to the input mode you want to label and press ⊕.<br>**2** Press ↑ or ↓ to choose the label and press ⊕.<br>**VIDEO LABEL** Options:<br>Video 1: VHS, 8mm, BETA, LD, GAME, DBS, DVD, WEB, RECEIVER, DTV.<br>Video 2/3: VHS, 8mm, BETA, LD, GAME, DBS, DVD, WEB, RECEIVER, DTV.<br>*When VIDEO LABEL is set to WEB, the picture will darken, creating an ideal picture for WebTV viewing.*<br>  |
| **LANGUAGE** | (except Canadian models)<br>You can change the language of your menus to either ENGLISH or ESPAÑOL. |

# Operating video equipment

## Programming the remote

You can use the supplied remote control to operate Sony or non-Sony video equipment.

1. Press CODE SET.
2. Press VTR/DVD (FUNCTION).
3. Use the 0-9 buttons to key in the manufacturer's code number from the following chart.
4. Press ENTER.

### VCR manufacturer code numbers

| Manufacturer | Code |
|---|---|
| Sony | 301, 302, 303 |
| Aiwa | 338, 344 |
| Broksonic | 319, 317 |
| Canon | 309, 308 |
| Daewoo | 341, 312, 309 |
| Emerson | 319, 320, 316, 317, 318,341 |
| Fisher | 330, 335 |
| Funai | 338 |
| General Electric | 329, 304, 309 |
| Go Video | 322 |
| Goldstar | 332 |
| Hitachi | 306, 304, 305,338 |
| JVC | 314, 336, 337, 345, 346, 347 |
| Kenwood | 314, 336, 332, 337 |
| LXI (Sears) | 332, 305, 330, 335, 338 |
| Magnavox | 308, 309, 310 |
| Mitsubishi/MGA | 323, 324, 325, 326 |
| NEC | 314, 336, 337 |
| Panasonic | 308, 309, 306, 307 |
| Philips | 308, 309, 310 |
| Pioneer | 308 |
| Quasar | 308, 309, 306 |
| RCA/PROSCAN | 304, 305, 308, 309, 311, 312, 313, 310, 329 |
| Realistic | 309, 330, 328, 335, 324, 338 |
| Sansui | 314 |
| Samsung | 322, 313, 321 |
| Sanyo | 330, 335 |
| Sharp | 327, 328 |
| Sylvania | 308, 309, 338, 310 |
| Symphonic | 338 |
| Technics | 309, 308 |
| Toshiba | 312, 311 |
| Wards | 327, 328, 335, 331, 332 |
| Zenith | 331 |

| Operating a VCR | Buttons on the remote control |
|---|---|
| To turn on or off | Press VTR (POWER). |
| To select a channel directly | Press the 0 – 9 buttons. |
| To change channels | Press CH +/–. |
| To record | Press ► and ● simultaneously. |
| To play | Press ►. |
| To stop | Press ■. |
| To fast forward | Press ►►. |
| To rewind the tape | Press ◄◄. |
| To pause | Press ❚❚. To resume normal playback, press again or press ►. |
| To search the picture forward or backward | Press ►► or ◄◄ during playback. To resume normal playback, release the button. |
| To change input mode | Press TV/VTR. |

### Tips

- In some rare cases, you may not be able to operate your non-Sony video equipment with the supplied remote control. In this case, please use the equipment's own remote control.
- The code numbers for Sony VCR's are assigned at the factory as follows:

| | |
|---|---|
| VHS VCR | 301 (preset code for the supplied remote control) |
| 8 mm VCR | 302 |
| Beta, ED Beta VCRs | 303 |

- When you remove the batteries, the code number may revert to the factory setting.



### MDP (Multi Disc Player) manufacturer code numbers

| Manufacturer | Code |
|---|---|
| Sony | 701 |
| Panasonic | 704, 710 |
| Pioneer | 702 |

| Operating an MDP | Buttons on the remote control |
|---|---|
| To turn on or off | Press VTR/DVD (POWER). |
| To play | Press ►. |
| To stop | Press ■. |
| To pause | Press ❚❚. To resume normal playback, press again or press ►. |
| To search the picture forward or backward | Press ►► or ◄◄ during playback. To resume normal playback, press ►. |
| To search the chapter forward or backward | Press CH +/–. |

### DVD (Digital Versatile Disc) manufacturer code numbers

| Manufacturer | Code |
|---|---|
| Sony | 751 |
| Panasonic | 753 |
| Pioneer | 752 |
| RCA | 755 |
| Toshiba | 754 |

| Operating a DVD player | Buttons on the remote control |
|---|---|
| To turn on or off | Press VTR/DVD (POWER). |
| To play | Press ►. |
| To stop | Press ■. |
| To pause | Press ❚❚. To resume normal playback, press again or press ►. |
| To search the picture forward or backward | Press ►► or ◄◄ during playback. To resume normal playback, press ►. |
| To search the chapter forward or backward | Press CH +/–. |
| To select chapters directly | 0–9 + ENTER. |
| MENU | Press to display DVD menu. |
| To move cursor in menu | Use your arrow buttons ↑↓, ←→. |

## Operating a cable box or DBS receiver

### Programming the remote

You can program the supplied remote control to operate a cable box or DBS receiver.

1 Press CODE SET.

2 Press DBS/CABLE (FUNCTION).

3 Use the 0-9 buttons to key in the manufacturer's code number from the following chart.

4 Press ENTER.

### For more details on operating the cable box or DBS receiver

Refer to the operating instructions that were supplied with the equipment.

### If the remote control doesn't work

- First, try repeating the setup procedures using the other codes listed for your equipment.

Tips

- If more than one code number is listed, try entering them one by one until you come to the correct code for your equipment.
- If you enter a new code number, the code number you previously entered at that setting is erased.
- In some rare cases, you may not be able to operate your equipment with the supplied remote control. In this case, use the equipment's own remote control unit.
- Whenever you remove the batteries the code numbers may revert to the factory setting and must be reset.

### Manufacturer code numbers (cable box)

| Manufacturer | Code |
|---|---|
| Hamlin/Regal | 222, 223, 224, 225, 226 |
| Jerrold/G. I. | 201, 202, 203, 204, 205, 206, 207, 208, 218 |
| Oak | 227, 228, 229 |
| Panasonic | 219, 220, 221 |
| Pioneer | 214, 215 |
| Scientific Atlanta | 209, 210, 211 |
| Tocom | 216, 217 |
| Zenith | 212, 213 |

### Manufacturer code numbers (DBS receiver)

| Manufacturer | Code |
|---|---|
| Sony | 801 (preset code for remote control) |
| General Electric | 802 |
| Hitachi | 805 |
| Hughes | 804 |
| Panasonic | 803 |
| RCA/PROSCAN | 802, 808 |
| Toshiba | 806, 807 |



## Troubleshooting

Consult the table below; it suggests solutions to specific problems. If you need more information, consult the operating instructions guide.

| Problem | What it could be | What you can do |
|---|---|---|
| Cannot Operate Single Tuner PIP (KV-27S45, 27V45) | • VCR may not be connected to your TV properly.<br>• VCR may not be turned on. | • Ensure that you have set your VCR correctly. (see page 7) |
| A red light keeps flashing on the TV for more than a few seconds | • Your TV may need service. | • Call your local Sony service center. |
| TV makes a noise when turned on | • This is a normal function of your TV. | |
| Screen is not lit and there is no sound | • Power cord may not be plugged in.<br>• Batteries may not have been placed with the correct polarity.<br>• TV/VIDEO setting may be incorrect. | • Press TV/VIDEO until you receive a channel.<br>• Perform AUTO SET UP again by pressing the SET UP button on your TV. (see page 13) |
| Poor or no picture (screen lit), good sound | • VIDEO menu settings may not be adjusted correctly.<br>• Antenna/cable connections may be faulty.<br>• VIDEO LABEL inputs may be set to WEB. (This label darkens the screen for ideal WebTV viewing.) | • Readjust your VIDEO menu settings.(see page 19)<br>• Check your VIDEO LABEL settings. (see page 25) |
| Good picture, no sound | • Sound may be set to MUTE.<br>• Your TV may be set to SAP.<br>• Speaker may not be set correctly. | • Check the MTS setting in the AUDIO menu. (see page 21)<br>• Check your SPEAKER settings. (see page 20) |
| No color | • Color settings may not be adjusted correctly. | • Adjust the COLOR settings in the VIDEO menu. (see page 19) |

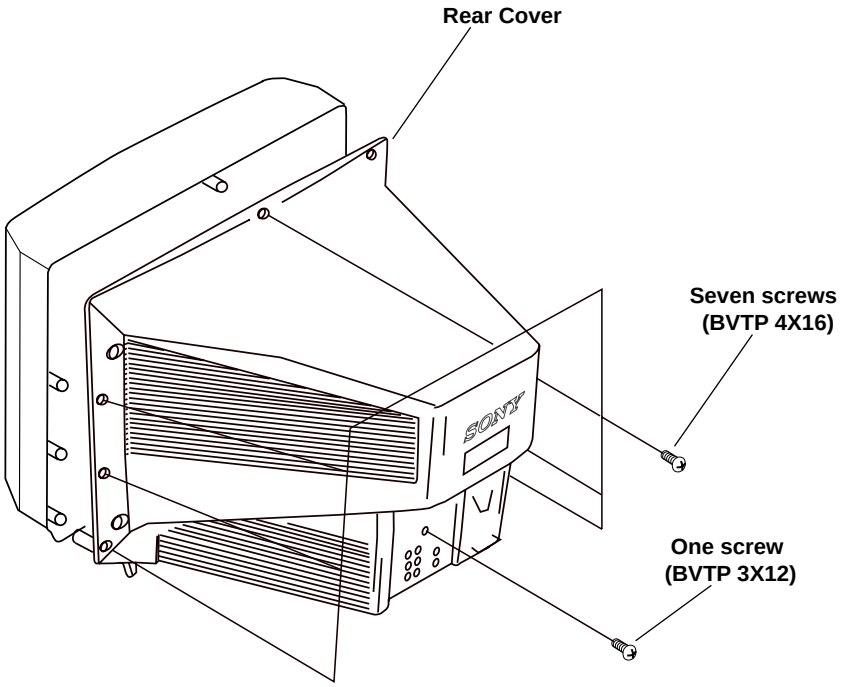
## Troubleshooting (continued)

| Problem | What it could be | What you can do |
|---|---|---|
| Only snow and noise appear on the screen | • CABLE setting may not be set correctly in the SET UP menu.<br>• Antenna/cable connections may not be correct.<br>• TV may be set to AUX mode. | • Ensure that you have selected the correct CABLE mode in the SET UP menu. (see page 23)<br>• Press ANT on your remote control to change the input mode. (see page 15) |
| Cannot receive upper channels (UHF) when using an antenna | • CABLE setting may not be correct in the SET UP menu. | • Ensure that CABLE is set to OFF in the SET UP menu. (see page 23)<br>• Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (see page 24) |
| Cannot receive any channels when using cable | • CABLE setting may not be set correctly in the SET UP menu. | • Ensure that CABLE is set to ON in the SET UP menu. (see page 23)<br>• Use AUTO PROGRAM to add receivable channels that are not presently in TV memory. (see page 24) |
| Cannot gain enough volume when using a cable box | • Volume may not be adjusted on your cable box. | • Press TV (FUNCTION) and adjust the TV's volume. |
| TV is fixed to one channel | • CHANNEL FIX settings may not be correct. | • Check your CHANNEL FIX settings. (see page 23) |

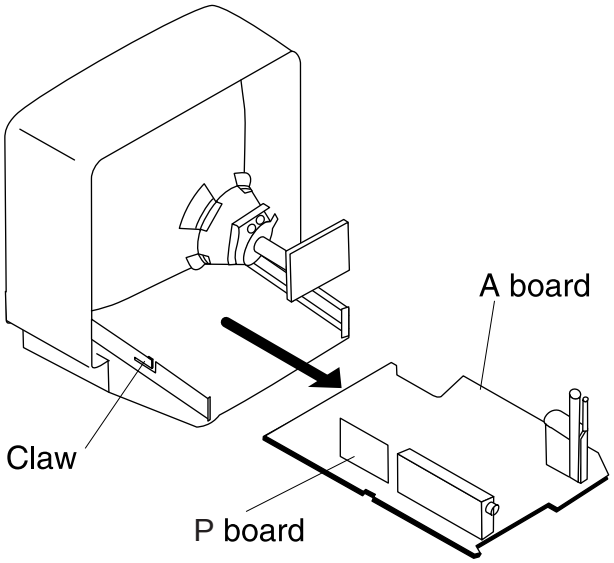
If, after reading these operating instructions, you have additional questions related to the use of your Sony television, please call our Direct Response Center at 1-800-222-SONY (7669).

# SECTION 2
# DISASSEMBLY

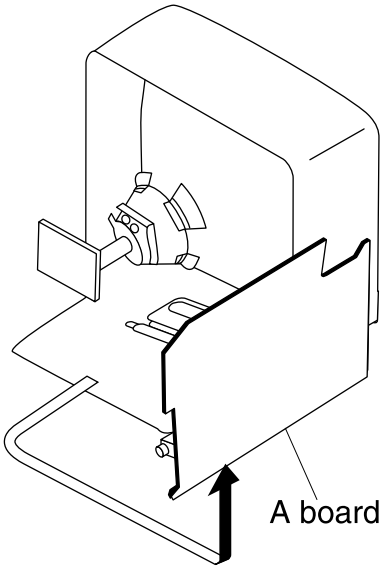
## 2-1. REAR COVER REMOVAL




## 2-2. A BOARD REMOVAL




## 2-3. SERVICE POSITION

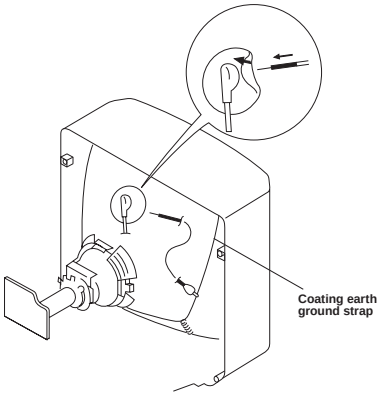


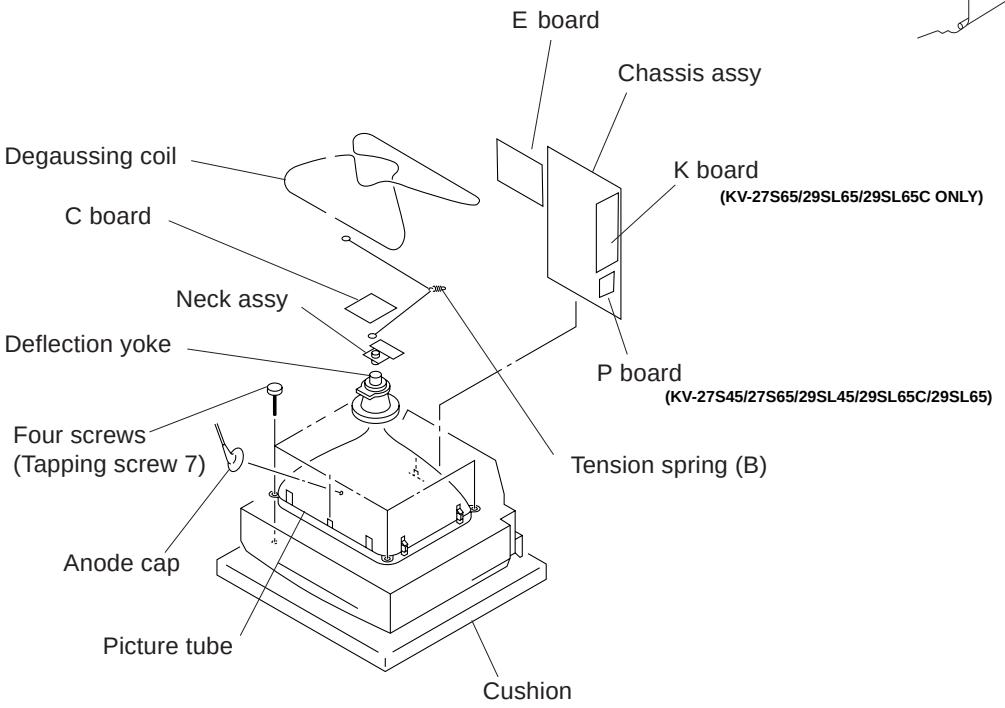
## 2-4. PICTURE TUBE REMOVAL

**WARNING** **Before removing anode cap:**

H.V. remains in the CRT even after the power is disconnected.

To avoid electrical shock, discharge CRT before attempting to remove the anode cap : Short between anode and CRT coating earth ground strap.

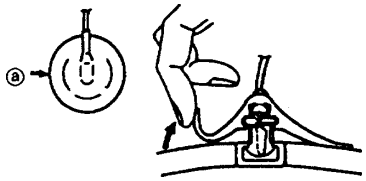


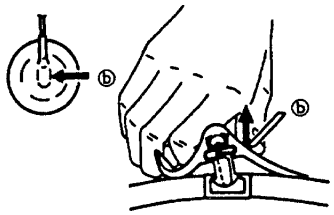

### REMOVAL OF THE ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

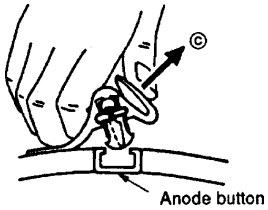
### REMOVAL PROCEDURES




① Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.



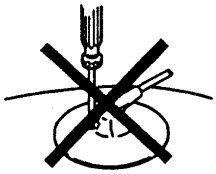

② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ⓑ.

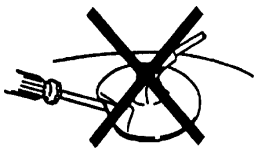



③ When one side of the rubber cap separates from the anode button, the anode-cap can be removed by turning the rubber cap and pulling it in the direction of arrow ⓒ.

### HOW TO HANDLE AN ANODE-CAP

① Do not use sharp objects which may cause damage to the surface of the anode-cap.
② Do not squeeze the rubber covering too hard to avoid damaging the anode-cap. A material fitting called a shatter-hook terminal is built into the rubber.
③ Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.





# SECTION 3
# SET-UP ADJUSTMENTS

The following adjustments should be made when a complete realignment is required or a new picture tube is installed. These adjustments should be performed with rated power supply voltage unless otherwise noted.

The controls and switch should be set as follows unless otherwise noted:

PICTURE control ..... normal

BRIGHTNESS control ..... normal

Perform the adjustments in order as follows:

1. Beam Landing
2. Convergence
3. Focus
4. Screen (G2) and White Balance

**Note:** Test Equipment Required

1. Color Bar Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital Multimeter

## 3-1. BEAM LANDING

**Preparation:**

- Feed in the white pattern signal.
- Before starting, degauss the entire screen.

1. Input a raster signal with the pattern generator.
2. Loosen the deflection yoke mounting screw, and set the purity control to the center as shown in Fig.2.
3. Turn the raster signal of the pattern generator to green.
4. Move the deflection yoke backward, and adjust with the purity control so that green is in the center and red and blue are at the sides evenly. (Fig.3)
5. Move the deflection yoke forward, and adjust so that the entire screen becomes green. (Fig.1)
6. Switch over the raster signal to red and blue and confirm the condition.
7. When the position of the deflection yoke is determined, tighten it with the deflection yoke mounting screw.
8. When landing at the corner is not right, adjust by using the disk magnets. (Fig.4)

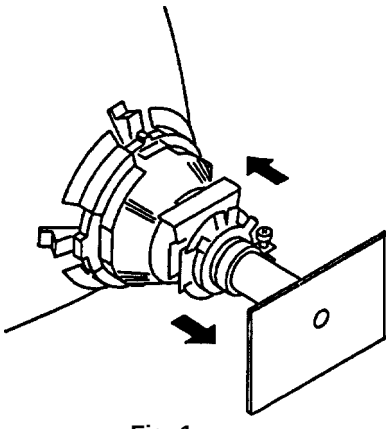


Fig. 1

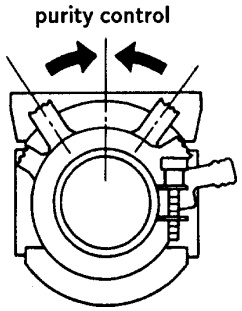



Fig. 2

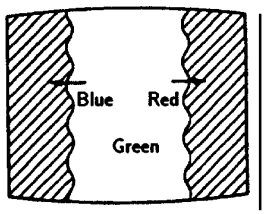



Fig. 3

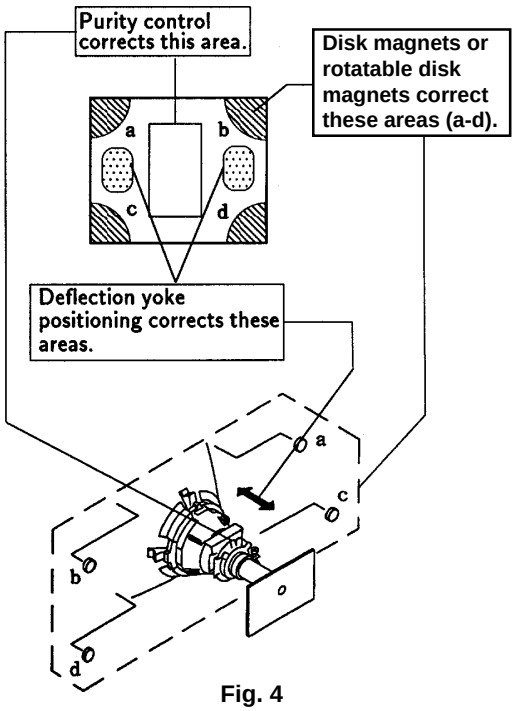



Fig. 4

## 3-2. CONVERGENCE

**Preparation:**

- Before starting, perform FOCUS, V. LIN and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in dot pattern.

### (1) Vertical Static Convergence

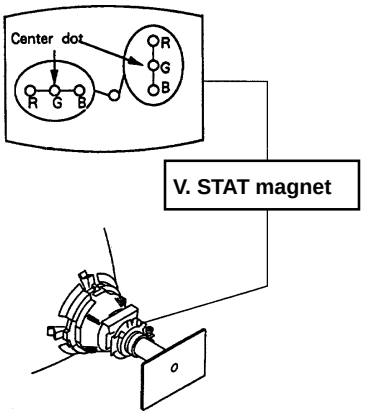
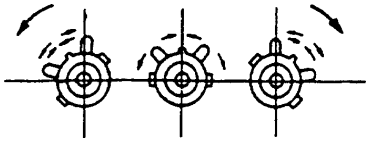


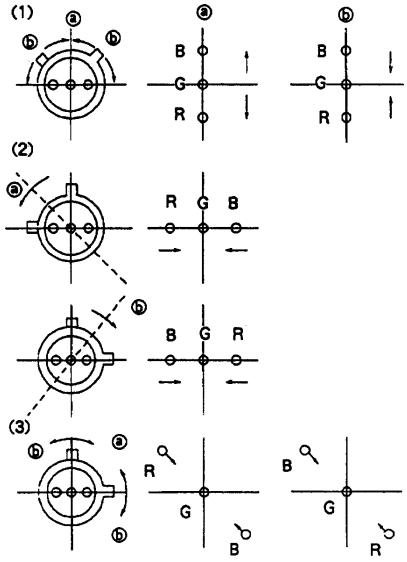

Fig. 5

1. Adjust V. STAT magnet to converge red, green and blue dots in the center of the screen. (Vertical movement)

   Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



2. When the V. STAT magnet is moved in the direction of arrow ⓐ and ⓑ, red, green, and blue dots move as shown below:




If the blue dot does not converge with red and green dots, perform the following steps:

- Move BMC magnet (a) to correct insufficient H. Static convergence.
- Rotate BMC magnet (b) to correct insufficient V. Static convergence.

In either case, repeat Beam Landing Adjustment.

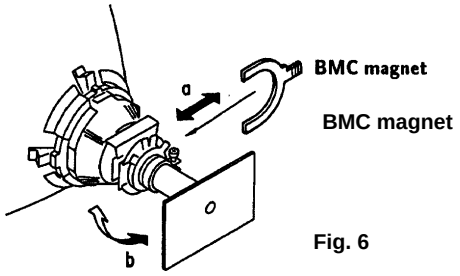



Fig. 6

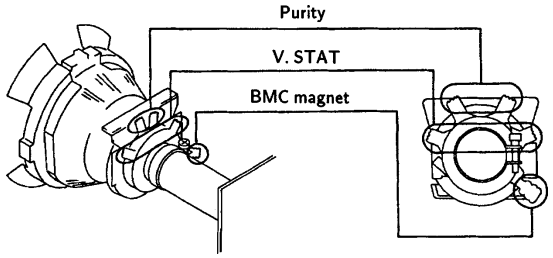



Fig. 7

### ( 2 ) Dynamic Convergence Adjustment

**Preparation:**

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.

1. Slightly loosen deflection yoke screw.
2. Remove deflection yoke spacers.
3. Move the deflection yoke for best convergence as shown below. ( Fig. 8)
4. Tighten the deflection yoke screw.
5. Install the deflection yoke spacers.

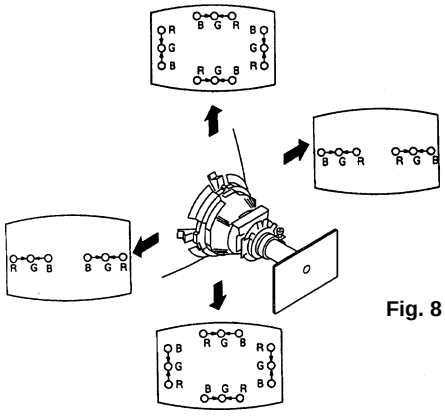


Fig. 8

### (3) Screen-corner Convergence

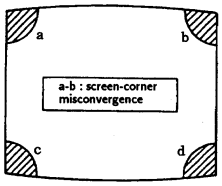
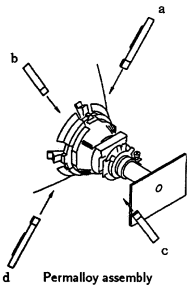



Fig. 9

Affix a permalloy assembly corresponding to the misconverged areas:




## 3-3. FOCUS

1. Adjust FOCUS control for best picture.

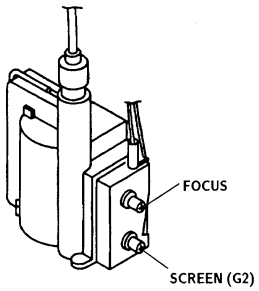
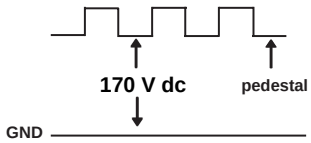



Fig. 10

## 3-4. SCREEN (G2)

1. Input a dots pattern.
2. Set the PICTURE and BRIGHT controls at minimum and COLOR control at normal.
3. Adjust SBRT, GCUT, BCUT in service mode with an oscilloscope as shown in Fig. 11 so that voltages on the red, green, and blue cathodes are 170Vdc.

Fig. 11



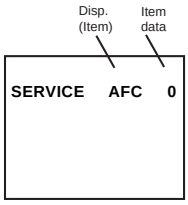

4. Observe the screen and adjust SCREEN (G2) VR to obtain the faintly visible background of dot signal.

## 3-5. METHOD OF SETTING THE SERVICE ADJUSTMENT MODE

### (1) SERVICE MODE PROCEDURE

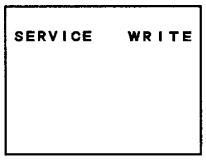
1. Standby mode. (Power off)
2. DISPLAY → 5 → VOL (+) → POWER on the Remote Commander. (Press each button within a second.)

### (2) SERVICE ADJUSTMENT MODE IN




3. The CRT displays the item being adjusted.
4. Press 1 or 4 on the Remote Commander to select the item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. Press MUTING then ENTER to write into memory.

### (3) SERVICE ADJUSTMENT MODE MEMORY




MUTING Green
↓
ENTER Red

7. Turn set off and on to exit.

## 3-6. WHITE BALANCE ADJUSTMENTS

1. Input an entire white signal.
2. Set to Service adjustment Mode.
3. Set DCOL to "0"
4. Set the PICTURE and BRIGHT to minimum.
5. Adjust with SBRT if necessary.
6. Select GCUT and BCUT with 1 and 4 .
7. Adjust with 3 and 6 for the best white balance.
8. Set the PICTURE and BRIGHT to maximum.
9. Select GDRV and BDRV with 1 and 4 .
10. Adjust with 3 and 6 for the best white balance.
11. Reset DCOL to "1".
12. Write into the memory by pressing MUTING then ENTER .

# SECTION 4
# SAFETY RELATED ADJUSTMENTS

## A BOARD

### ⋈ R584 CONFIRMATION METHOD (HV HOLD-DOWN CONFIRMATION) AND READJUSTMENTS

The following adjustments should always be performed when replacing the following components which are marked with ◪ on the schematic diagram:

DY, C511,C572, C573, C574, C575, D573, D574, R582, R583 R585, R586, R578, R579, T504, IC301, IC521, IC603, C507, C508, C509, C515, C520, L591,L501

#### (1) Preparation before Confirmation

Using Variac, apply AC input voltage: 120±2VAC
(or 220 ± 2 VAC for KV-29SL40A/29SL40C 29SL65C/29XT11A ONLY)

1) Turn the POWER switch ON.
2) Input a white signal and set the PICTURE and BRIGHT controls to maximum.
3) Confirm that the voltage between C574 (+) or TP503 and ground is more than: 105VDC.

#### (2) Hold-down Operation Confirmation

1) Connect the current meter between Pin 11 of the FBT (T504) and the PCB land where Pin 11 would normally attach. (see figure 1.0 on next page)
2) Input a dot signal and set PICTURE and BRIGHTNESS to minimum: IABL = 100±100µA
3) Confirm the voltage of A board TP-600 is 135 ± 3VDC
4) Connect the Digital Voltmeter and the DC power supply via diode 1SS119 to C574 (+). (See figure 1.0 on next page.)
5) Increase the DC power voltage gradually until the picture blanks out.
6) Turn DC power source off immediately.
7) Read the digital voltmeter indication.

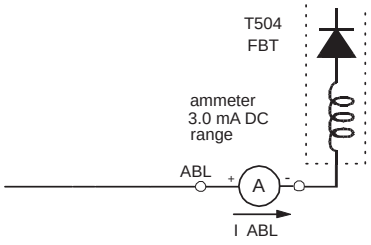
   STANDARD
   Less than or equal to: 141.3 VDC

8) Input a white signal and set PICTURE and BRIGHTNESS to maximum: IABL = 1750±100µA
9) Repeat steps from (4) to (7).

   STANDARD
   Less than or equal to: 141.3 VDC

#### (3) Hold-down Readjustment

If the current setting indicated in step 2-2 cannot be met, readjustment should be performed by altering the resistance value of R584, a component marked with ⋈.




### B+ VOLTAGE CONFIRMATION AND ADJUSTMENT

The following adjustments should always be performed when replacing the following components which are marked with ◪ on the schematic diagram:

IC603, IC601, R699

1) Using Variac, apply AC input voltage: 130 ± 2.0 VAC (or 220.0 ± 2.0 VAC for KV-29SL40A/29SL40C/ 29SL65C/29XT11A only).
2) Input a dot signal.
3) Set the PICTURE control and the BRIGHT control to minimum.
4) Set to service adjustment mode.
5) Select PADJ with [1] and [4] .
6) Adjust with [6] to the 0 level.
7) Confirm the voltage of A BOARD TP-600 is less than 138 VDC.
8) If step 7 is not satisfied, replace the components, repeat the above steps.
9) Adjust with [3] and [6] for: 135 ± 3 VDC
10) Write into the memory by pressing [MUTING] then [ENTER].

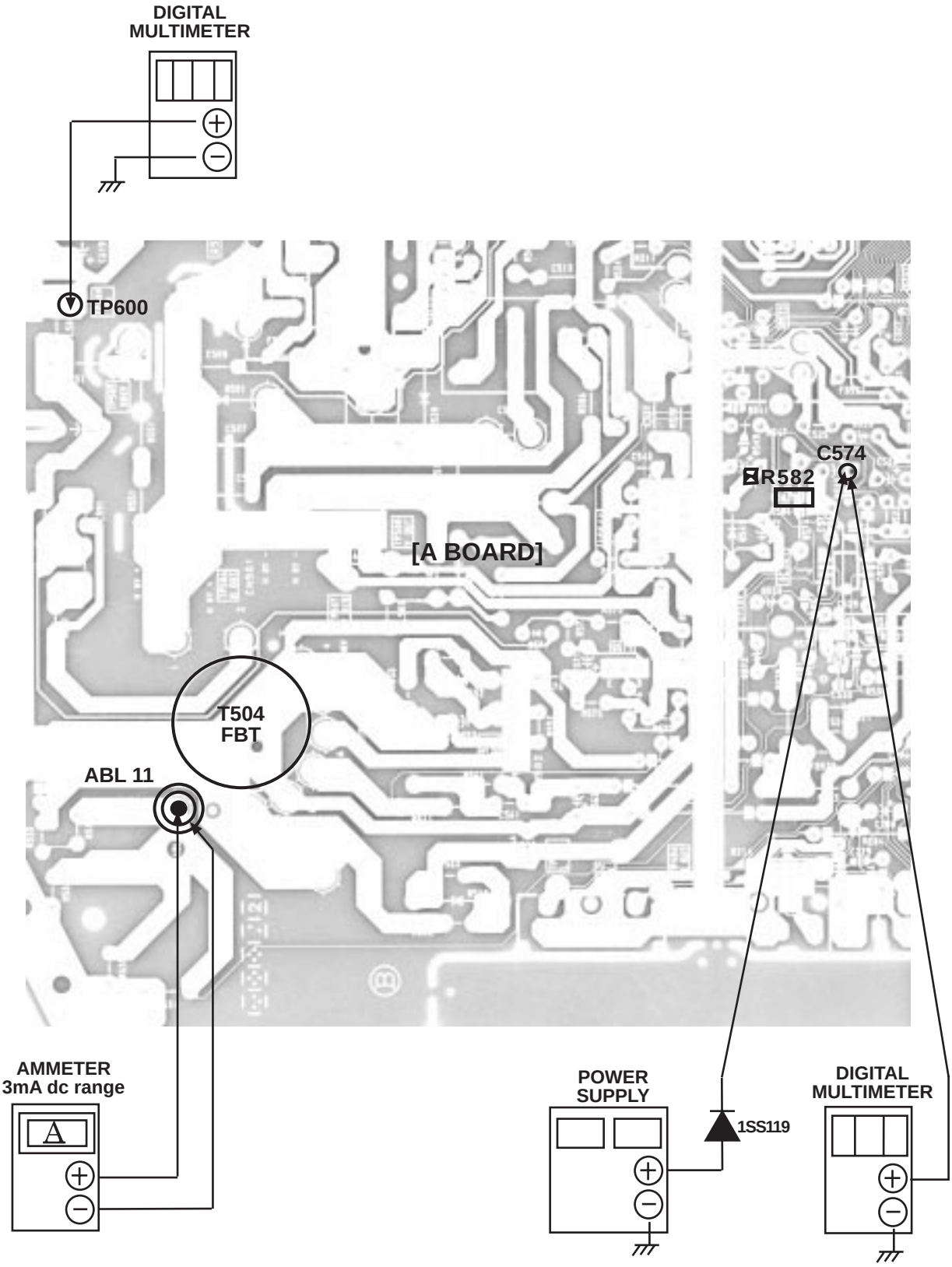

DIGITAL
MULTIMETER
TP600
[A BOARD]
C574
R582
T504
FBT
ABL 11
AMMETER
3mA dc range
A
POWER
SUPPLY
1SS119
DIGITAL
MULTIMETER

Figure 1.0

# SECTION 5
# CIRCUIT ADJUSTMENTS

## 5-1. ELECTRICAL ADJUSTMENT BY REMOTE COMMANDER

Use Remote Commander (RM-Y167) to perform circuit adjustments on this model.

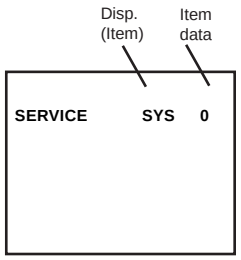
NOTE : Test Equipment Required:
1. Pattern Generator
2. Frequency Counter
3. Digital Multimeter
4. Audio OSC

### (1) Method of Setting the Service Adjustment Mode

SERVICE MODE PROCEDURE

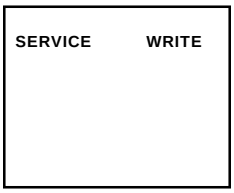
1. Standby mode. (Power off)
2. DISPLAY → 5 → VOL (+) → POWER on the Remote Commander. (Press each button within a second.)

SERVICE ADJUSTMENT MODE IN



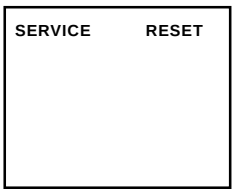

3. The CRT displays the item being adjusted.
4. Press 1 or 4 on the Remote Commander to select the item.
5. Press 3 or 6 on the Remote Commander to change the data.
6. Press MUTING then ENTER to write into memory.

SERVICE ADJUSTMENT MODE MEMORY




MUTING Green
↓
ENTER Red

7. Press 8 then ENTER on the Remote Commander to initialize.



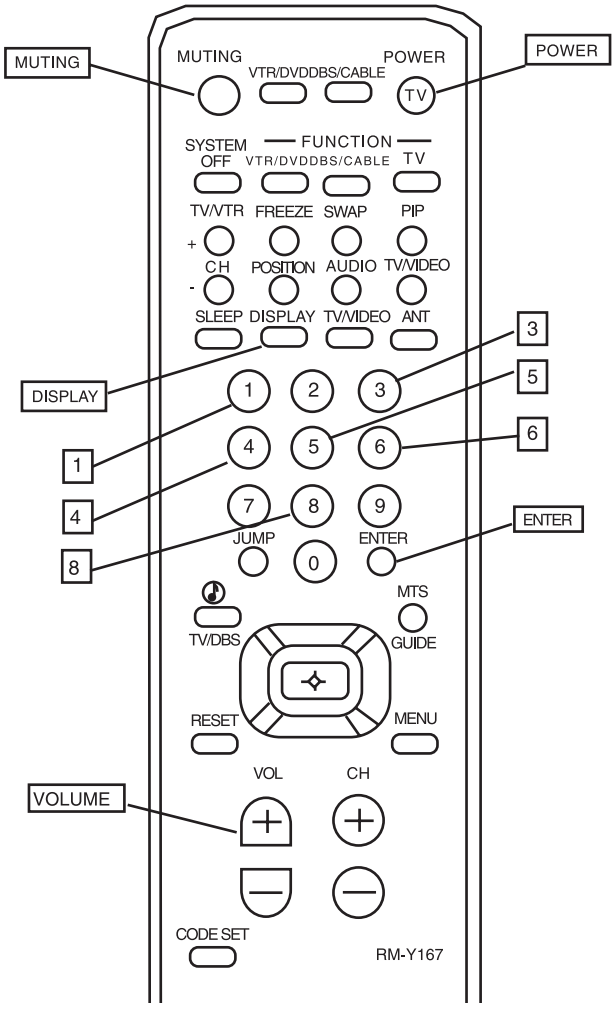

Carry out step 7 when adjusting IDs 0 to 4 and when replacing and adjusting IC003.

8. Turn set off and on to exit.

### (2) Memory Write Confirmation Method

1. After adjustment, pull out the plug from the AC outlet, then replace the plug in the AC outlet again.
2. Turn the power switch ON and set to service mode.
3. Call the adjusted items again to confirm they were adjusted.

### (3) Adjust Buttons and Indicator




RM-Y167

## (4) Item of Adjustments

| NO. | ITEM | FUNCTION | DATA RANGE | INITIAL DATA | | | | AVERAGE DATA |
|---|---|---|---|---|---|---|---|---|
| | | | | NTSC | PAL-M | PAL-N | VIDEO | |
| 1 | HSIZ | HORIZONTAL AMP. ADJ. | 0-63 | 45 | 45 | 45 | | 48 |
| 2 | HPOS | HORIZONTAL POS. ADJ. | 0-63 | 10 | 10 | 10 | | 10 |
| 3 | VBOW | VRT LINE BOWING ADJ. | 0-15 | | 6 | | | 6 |
| 4 | VANG | VRT LINE BOW SLANT ADJ. | 0-15 | | 5 | | | 5 |
| 5 | TRAP | HORIZ. TRAPEZOID ADJ. | 0-15 | | 7 | | | 5 |
| 6 | PAMP | HORIZ. PIN DISTORTION ADJ. | 0-63 | 20 | 20 | 20 | | 30 |
| 7 | CPIN | SAME AS PAMP-SCRN TP/BTM | 0-63 | 40 | 40 | 40 | | 30 |
| 8 | VSIZ | VERTICAL AMP. ADJUST | 0-63 | 31 | 31 | 38 | | 35 |
| 9 | VPOS | VERTICAL POSITION ADJ. | 0-63 | 35 | 35 | 35 | | 35 |
| 10 | VLIN | VERTICAL LINEARITYADJ. | 0-15 | 6 | 6 | 6 | | 6 |
| 11 | SCOR | VERTICAL AMOUNT ADJ. | 0-15 | 8 | 8 | 8 | | 8 |
| 12 | VZOM | 16:9 CRT Z MODE ON/OFF | 0,1 | | 0 | | | 0 |
| 13 | EHT | VRT Hl-VOLT. CORRECTION | 0-15 | | 4 | | | 4 |
| 14 | ASP | ASPECT RATIO CONTROL | 0-63 | | 47 | | | 47 |
| 15 | SCRL | 16:9 CRT Z MODE TRAN SCRL | 0-63 | | 31 | | | 31 |
| 16 | HBLK | RGB OUT WIDTH CONTROL | 0,1 | | 1 | | | 1 |
| 17 | LBLK | LEFT SCREEN HBLK CONTROL | 0-15 | | 15 | | | 15 |
| 18 | RBLK | RGT SCREEN HBLK CONTROL | 0-15 | | 3 | | | 3 |
| 19 | VUSN | V SAW WAVEFORM COMPRES | 0,1 | | 0 | | | 0 |
| 20 | HDW | H. DRIVE PULSE WIDTH | 0,1 | | 0 | | | 0 |
| 21 | EWDC | EW/DC ADJUST | 0,1 | | 0 | | | 0 |
| 22 | LVLN | SCREEN BTM VRT LIN ADJUST | 0-15 | | 0 | | | 0 |
| 23 | UVLN | SCREEN TOP VRT LIN ADJUST | 0-15 | | 0 | | | 0 |
| 24 | RDRV | R OUTPUT DRIVE CONTROL | 0-63 | | 35 | | | 40 |
| 25 | GDRV | G OUTPUT DRIVE CONTROL | 0-63 | | 30 | | | 35 |
| 26 | BDRV | B OUTPUT DRIVE CONTROL | 0-63 | | 30 | | | 35 |
| 27 | RCUT | R OUTPUT CUTOFF CONTROL | 0-15 | | 10 | | | 7 |
| 28 | GCUT | G OUTPUT CUTOFF CONTROL | 0-15 | | 7 | | | 5 |
| 29 | BCUT | B OUTPUT CUTOFF CONTROL | 0-15 | | 7 | | | 5 |
| 30 | DCOL | DYNAMIC COLOR ON/OFF | 0,1 | | 0 | | | 1 |
| 31 | SHUE | SUB HUE | 0-31 | | 14 | | | 8 |
| 32 | SCOL | SUB COLOR | 0-31 | 14 | 14 | 14 | | 14 |
| 33 | SBRT | SUB BRIGHTNESS | 0-31 | | 11 | | | 12 |
| 34 | RON | R OUTPUT ON/OFF | 0,1 | | 1 | | | 1 |
| 35 | GON | G OUTPUT ON/OFF | 0,1 | | 1 | | | 1 |
| 36 | BON | B OUTPUT ON/OFF | 0,1 | | 1 | | | 1 |
| 37 | AXPL | AXIS PAL | 0,1 | | 0 | | | 0 |
| 38 | AXNT | AXIS NTSC | 0,1 | | 0 | | | 0 |
| 39 | CBPF | CHROMA BPF ON/OFF | 0,1 | | 0*, 1** | | | |
| 40 | CTRP | Y TRAP FILTER ON/OFF | 0,1 | | 1*, 0** | | | |
| 41 | COFF | COLOR ON/OFF | 0,1 | | 0 | | | 0 |
| 42 | KOFF | SET COLOR KILLER | 0,1 | | 0 | | | 0 |
| 43 | SSHP | SUB SHARPNESS | 0-15 | | 7 | | | 7 |
| 44 | SHPF | SHARPNESS CIRCUIT F0 | 0,1 | | 1 | | 1 | 1 |
| 45 | PREL | PRE/OVR SHOOT SWITCHING | 0,1 | | 1 | | | 1 |
| 46 | Y-DC | DC TRANS RATIO SWITCHING | 0,1 | | 1 | | | 1 |
| 47 | GAMM | GAMMA CORRECTION AMNT | 0-3 | | 0 | | | 0 |
| 48 | ABLM | ABL MODE SWITCHING | 0,1 | | 1 | | | 1 |
| 49 | VTH | ABL C D VTH SWITCHING | 0,1 | | 1 | | | 1 |
| 50 | YDEL | Y DELAY TIME CONTROL | 0-15 | | 7 | | | 7 |
| 51 | NCOL | NO COLOR ID | 0,1 | | 1 | | | 1 |
| 52 | FSC | FSC OUT ON/OFF | 0,1 | | 1*, 0** | | | |
| 53 | K-ID | KILLER ID CONTROL SW | 0,1 | | 0 | | | 0 |
| 54 | HOSC | H VCO OSCILLATION FREQ | 0-15 | | 7 | | | 7 |
| 55 | VSS | V SYNC SLICE LEVEL | 0,1 | | 0 | | | 0 |
| 56 | HSS | H SYNC SLICE LEVEL | 0,1 | | 0 | | | 0 |
| 57 | HMSK | | 0,1 | | 1 | | | 1 |
| 58 | VTMS | SELECT SIGNAL VTIM PIN | 0-3 | | 0 | | | 0 |
| 59 | CDMD | V CNT DWN MODE SWITCHING | 0-3 | | 0 | | 1 | |
| 60 | AFC | AFC LOOP GAIN SWITCHING | 0-3 | | 0 | | 0 | |

| NO. | ITEM | FUNCTION | DATA RANGE | INITIAL DATA | | | | AVERAGE DATA |
|---|---|---|---|---|---|---|---|---|
| | | | | NTSC | PAL-M | PAL-N | VIDEO | |
| 61 | FIFR | FIELD FREQUENCY | 0-3 | 3*, 1** | | | | |
| 62 | SBAL | SUB BALANCE | 0-31 | 14 | | | | 14 |
| 63 | DISP | OSD POSITION | 0-127 | 15 | | | | 15 |
| 64 | PADJ | POWER ADJUSTMENT | 0-63 | 3 | | | | 3 |
| 65 | PSHP | PIP SUB SHARPNESS | 0-15 | 7 | | | | 7 |
| 66 | PPIX | PIP SUB CONTRAST | 0-15 | 7 | | | | 7 |
| 67 | PHUE | PIP SUB HUE | 0-15 | 3 | | | | 3 |
| 68 | PCOL | PIP SUB COLOR | 0-15 | 5 | 5 | 5 | | 5 |
| 69 | PTRP | PIP C TRAP F0 | 0-15 | 7 | | | | 7 |
| 70 | PAFC | PiP AFC | 0-3 | 1 | | | 1 | 1 |
| 71 | PYDR | PIP Y DRIVE | 0-31 | 14 | | | | 14 |
| 72 | UPED | U PED | 0-15 | 8 | | | | 8 |
| 73 | VPED | V PED | 0-15 | 8 | | | | 8 |
| 74 | U2PE | U2 PED | 0-15 | 5 | | | | 5 |
| 75 | V2PE | V2 PED | 0-15 | 5 | | | | 5 |
| 76 | Y2DR | Y2 DRIVE | 0-31 | 20 | | | | 20 |
| 77 | U2DR | U2 DRIVE | 0-31 | 18 | | | | 18 |
| 78 | V2DRV | V2 DRIVE | 0-31 | 9 | | | | 9 |
| 79 | PSFO | PIP SHP F0 | 0,1 | 1 | | | | 1 |
| 80 | PCD2 | PIP CD MODE 2 | 0,1 | 1 | | | 1 | 1 |
| 81 | PDCT | PIP DC TRAN | 0-7 | 4 | | | | 4 |
| 82 | PP/O | PIP PRE/OVER | 0-3 | 1 | | | | 1 |
| 83 | PDLY | PIP Y DELAY | 0-3 | 0 | | | | 0 |
| 84 | PBG | PIP BG | 0-15 | 5 | | | | 5 |
| 85 | PEXT | PIP EXT COLOR | 0,1 | 1*, 0** | | | | 1** 0* |
| 86 | PHMK | | 0,1 | 0 | | | | 0 |
| 87 | ABL0 | | 0,1 | 0 | | | | 0 |
| 88 | ABL1 | | 0-7 | 1 | | | | 1 |
| 89 | PHPO | PIP HORIZONTAL POSITION | 0-63 | 58 | | | | 58 |
| 90 | PVPO | PiP VERTICAL POSiTiON | 0-31 | 18 | | | | 18 |
| 91 | PYSD | PIP YS DELAY | 0-15 | 1 | | | | 1 |
| 92 | PYDL | PIP Y INPUT DELAY | 0-7 | 0 | | | | 0 |
| 93 | PHVI | PIP HV SYNC | 0,1 | 0 | | | | 0 |
| 94 | PCLP | PIP CLAMP | 0-3 | 0 | | | | 0 |
| 95 | PCLK | PIP CLOCK | 0,1 | 1 | | | | 1 |
| 96 | PIHS | INSET HORIZONTAL SYNC | 0-15 | 2 | | | | 2 |
| 97 | PIVS | INSET VERTICAL SYNC | 0-63 | 22 | | | | 22 |
| 98 | PMVS | MAIN VERTICAL SYNV | 0-63 | 17 | | | | 17 |
| 99 | PCON | PIP CONTRAST | 0-15 | 10 | | | | 10 |
| 100 | PFRY | PIP FRAME Y | 0-15 | 5 | | | | 5 |
| 101 | PFRC | PIP FRAME CHROMA | 0-255 | 0 | | | | 0 |
| 102 | PFRW | PIP FRAME WIDTH | 0-31 | 20 | | | | 20 |
| 103 | PSEL | PIP SEL | 0,1 | 1 | | | | 1 |
| 104 | PPLL | PIP PLL | 0-3 | 0 | | | | 0 |
| 105 | PVPE | PIP V PED | 0-15 | 0 | | | | 0 |
| 106 | PUPE | PIP U PED | 0-15 | 0 | | | | 0 |

* NTSC MODELS
** TRINORMA MODELS

SERVICE ID0 25

Note: No. 1 through 106 show adjustment order.

### (5) Feature ID Map

| | KV- | DESTINATION | ID-0 | ID-1 | ID-2 | ID-3 | ID-4 | ID-5 | ID-6 | ID-7 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **27S40** | (US) | 153 | 1 | 13 | 195 | 31 | 1 | 0 | 64 |
| 2 | **27S40** | (CND) | 129 | 1 | 13 | 195 | 31 | 1 | 0 | 64 |
| 3 | **27S45** | (US) | 153 | 27 | 13 | 195 | 31 | 1 | 1 | 64 |
| 4 | **27S45** | (CND) | 129 | 27 | 13 | 195 | 31 | 1 | 1 | 64 |
| 5 | **27S65** | (US) | 153 | 27 | 15 | 195 | 31 | 1 | 7 | 64 |
| 6 | **27S65** | (CND) | 129 | 27 | 15 | 195 | 31 | 1 | 7 | 64 |
| 7 | **29SL40** | (E) | 145 | 1 | 141 | 195 | 63 | 1 | 0 | 64 |
| 8 | **29SL40A** | (E) | 151 | 1 | 141 | 195 | 55 | 1 | 0 | 64 |
| 9 | **29SL40C** | (E) | 145 | 1 | 141 | 195 | 63 | 1 | 0 | 64 |
| 10 | **29SL45** | (E) | 145 | 27 | 141 | 195 | 63 | 1 | 1 | 64 |
| 11 | **29SL65** | (E) | 145 | 27 | 143 | 195 | 63 | 1 | 7 | 64 |
| 12 | **29SL65C** | (E) | 145 | 19 | 143 | 195 | 63 | 1 | 7 | 64 |
| 13 | **29XL40M** | (MX) | 145 | 1 | 141 | 195 | 63 | 1 | 0 | 64 |
| 14 | **29XL40P** | (E) | 145 | 1 | 141 | 195 | 63 | 1 | 0 | 64 |
| 15 | **29XT11A** | (E) | 151 | 1 | 141 | 195 | 55 | 1 | 0 | 64 |

## 5-2. A BOARD ADJUSTMENTS

### H. FREQUENCY ADJUSTMENT

1. Input a monoscope signal.
2. Set to Service adjustment Mode.
3. Connect a frequency counter to base of Q501 (TP-500 H. DRIVE).
4. Select the item of AFC, set to 3 level (free run).
5. Check H. Frequency for the 15735 ± 200 Hz. (NTSC) or check H. Frequency for the 15650 ± 200 Hz. (Trinorma)
6. Select the item of AFC again, adjust the level "0".
7. Write into the memory by pressing [MUTING] then [ENTER] .

### V. FREQUENCY ADJUSTMENT

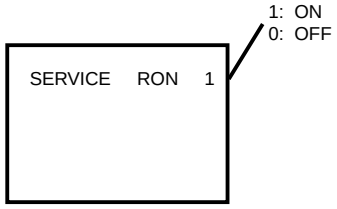
1. Select video 1 with no signal input.
2. Set the conditions with standard setting.
3. Connect the frequency counter across TP-508 or CN501 VDY (+) pin ⑥ connector and ground.
4. Check V. Frequency for the 60 ± 2 Hz (NTSC)
5. Check V. Frequency for the 50 ± 2 Hz (Trinorma).

### SUB CONTRACT ADJUSTMENT (SCON)

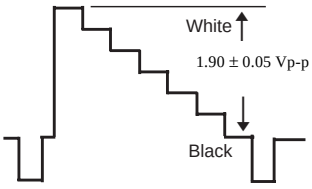
1. Input a color-bar signal.
2. Select the red color.
3. Set to Service adjustment Mode.
4. Select the item DCOL to "0" level.
5. Set the conditions as follows.

PICTURE . . . . . MAX
COLOR . . . . . MIN
BRIGHT . . . . . CENTER

R ON . . . . . ON (1)
G ON . . . . . OFF (0)
B ON . . . . . OFF (0)




6. Connect an oscilloscope probe to C Board, CN301 Pin ⑤ (RED OUT).
7. Select RDRV with [1] and [4] .
8. Adjust with [3] and [6] for: 1.90 ± 0.05 Vp-p.



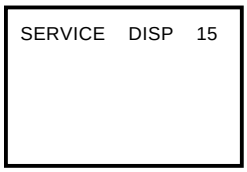

9. Reset the item DCOL to "1" level.
10. Write the memory by pressing [MUTING] then [ENTER] .
11. Return the following back to normal after adjustment.

PICTURE . . . . . MAX
COLOR . . . . . CENTER
BRIGHT . . . . . CENTER

R ON . . . . . ON (1)
G ON . . . . . ON (1)
B ON . . . . . ON (1)

## DISPLAY POSITION ADJUSTMENT (DISP)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Select DISP with 1 and 4 .
4. Adjust with 3 and 6 for adjustment of characters to center .
5. Write the memory by pressing MUTING then ENTER .
6. Check if the text is displayed on the screen.

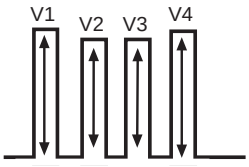



## SUB BRIGHT ADJUSTMENT (SBRT)

1. Input a cross-hatch signal.
2. Set to Service adjustment Mode.
3. Set the PICTURE and BRIGHT to minimum.
4. Select SBRT with 1 and 4 .
5. Adjust with 3 and 6 to obtain a faintly visible cross-hatch.
6. Write into the memory by pressing MUTING then ENTER.

## SUB HUE, SUB COLOR ADJUSTMENT (SHUE, SCOL)

1. Input a color-bar signal.
2. Set to Service adjustment Mode.
3. Select the item DCOL and set to "0" level.
4. Connect oscilloscope probe to C Board, CN301 Pin ⑦ (BLUE OUT).
5. Select SHUE and SCOL with 1 and 4 .
6. Adjust with 3 and 6 for the V1 = V4 ± 0.1Vp-p (SCOL) and V2 = V3 ± 0.1Vp-p (SHUE).

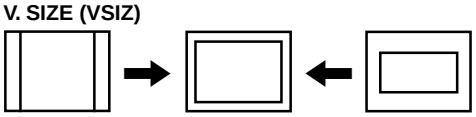



7. Reset the item DCOL to "1" level.
8. Write into the memory by pressing MUTING then ENTER .

## V. SIZE ADJUSTMENT ( VSIZ)

1. Input a cross-hatch signal.
2. Set to Service adjustment mode.
3. Select VSIZ with 1 and 4 .
4. Adjust with 3 and 6 for the best vertical size.

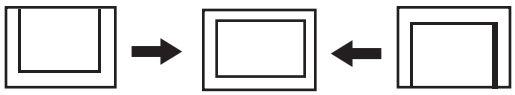
V. SIZE (VSIZ)



## V. CENTER ADJUSTMENT (VPOS)

1.Input a cross-hatch signal.
2.Set to Service adjustment Mode.
3.Select VPOS with 1 and 4 .
4.Adjust with 3 and 6 for the best vertical center.
5.Write into the memory by pressing MUTING then ENTER

V. CENTER (VPOS)

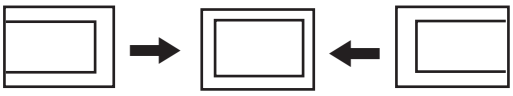


## H. CENTER ADJUSTMENT (HPOS)

Note : Perform this adjustment after checking H. FREQUENCY.

1. Input a cross-hatch signal.
2. Set the Service adjustment Mode.
3. Select HPOS with 1 and 4 .
4. Adjust with 3 and 6 for the best horizontal center.
5. Write into the memory by pressing MUTING then ENTER

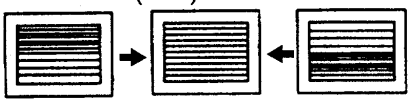
H. CENTER (VPOS)



## V. LINEARITY (VLIN) AND V CORRECTION

1. Input a cross-hatch signal.
2. V. Correction is automatically adjusted from the circuit and should satisfy the conditions below:

V LINEARITY (VLIN)

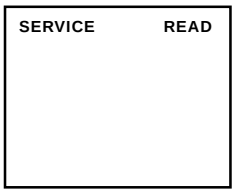


V CORRECTION

## SERVICE ADJUSTMENT MODE MEMORY

1. Change DCOL to "1".
2. After completing all adjustments, press "0" then ENTER .

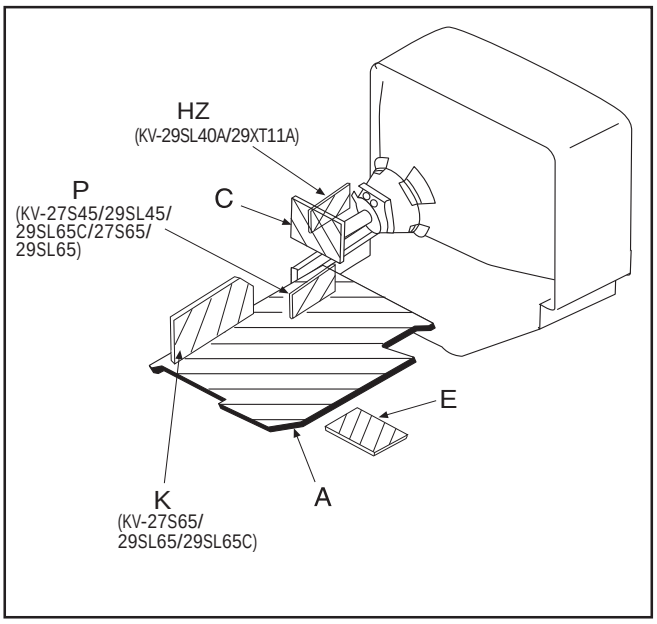
READ FROM MEMORY




Green
0

Red
ENTER

## 6-2. Circuit Boards Location




| Part replaced (◪) | Adjustment (⋈) |
|---|---|
| DY, C511, C572, C573, C574, C575, D573, D574, R582, R583, R585, R586, R578, R579, T504, IC301, IC521,IC603, C507, C508, C509, C515, C520, L591, L501 | HV HOLD-DOWN (R584) |

| | |
|---|---|
| IC603, IC601, R699 | B+ VOLTAGE CONFIRMATION |

## 6-3. Printed Wiring Boards and Schematic Diagrams

Note:

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytic and tantalums.
- All electrolytics are 50V unless otherwise specified
- Indication of resistance, which does not have one for rating electrical power, is as follows:

| |
|---|
| Pitch: 5mm<br>Rating electrical power 1/4W |

- All resistors are in ohms.
  KΩ=1000Ω, MΩ=1000KΩ
- nonflammable resistor.
- Δ: internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- The components identified by ◪ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪ make the necessary adjustments indicated. If results do not meet the specified value, change the component identified by ⋈ and repeat the adjustment until the specified value is achieved.
  (Refer to R584 on page 27 and 28).
- When replacing parts in the table below be sure to perform the related adjustment.

- All voltages are in V.
- Voltage is DC with respect to ground unless otherwise noted.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- Circled numbers are waveform references.

- ▬▬ : B + Line
- - - - - : B - Line
- ⇨ : signal path

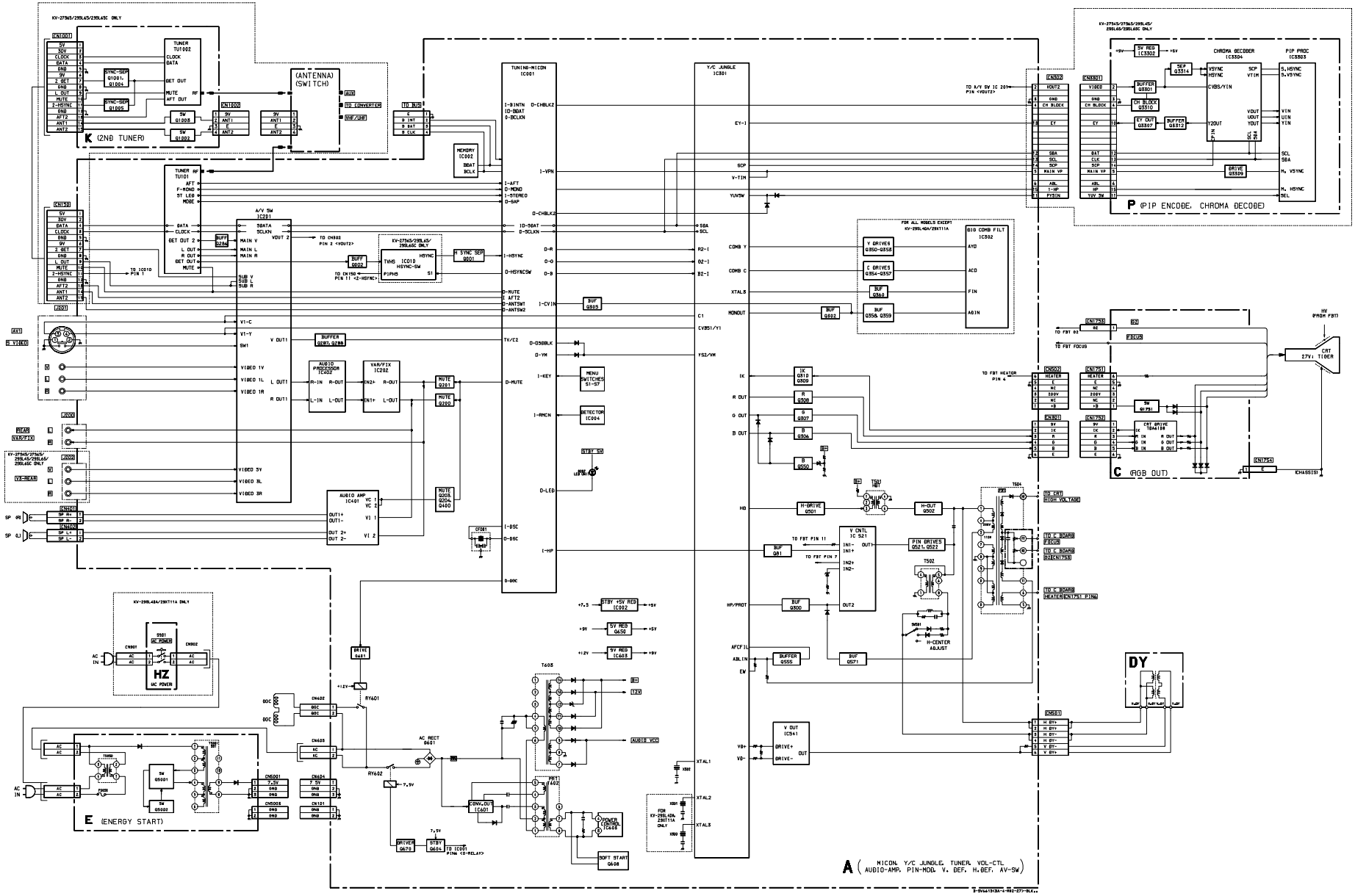
**Reference Information**

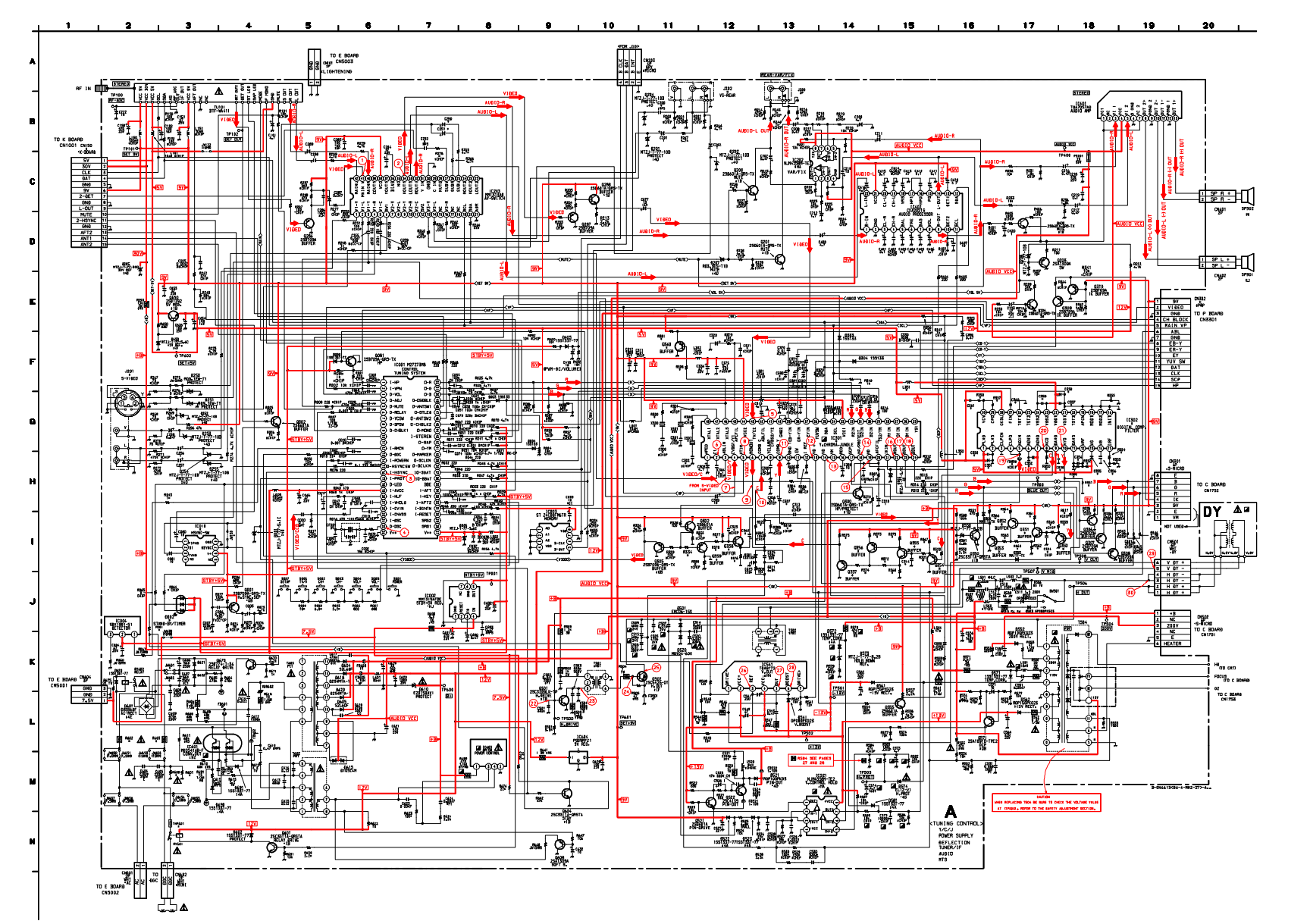
| | | | |
|---|---|---|---|
| RESISTOR | : | RN | METAL FILM |
| | : | RC | SOLID |
| | : | FPRD | NON FLAMMABLE CARBON |
| | : | FUSE | NON FLAMMABLE FUSIBLE |
| | : | RW | NON FLAMMABLE WIREWOUND |
| | : | RS | NON FLAMMABLE METAL OXIDE |
| | : | RB | NON FLAMMABLE CEMENT |
| | : | ※ | ADJUSTMENT RESISTOR |
| COIL | : | LF-8L | MICRO INDUCTOR |
| CAPACITOR | : | TA | TANTALUM |
| | : | PS | STYROL |
| | : | PP | POLYPROPYLENE |
| | : | PT | MYLAR |
| | : | MPS | METALIZED POLYESTER |
| | : | MPP | METALIZED POLYPROPYLENE |
| | : | ALB | BIPOLAR |
| | : | ALT | HIGH TEMPERATURE |
| | : | ALR | HIGH RIPPLE |

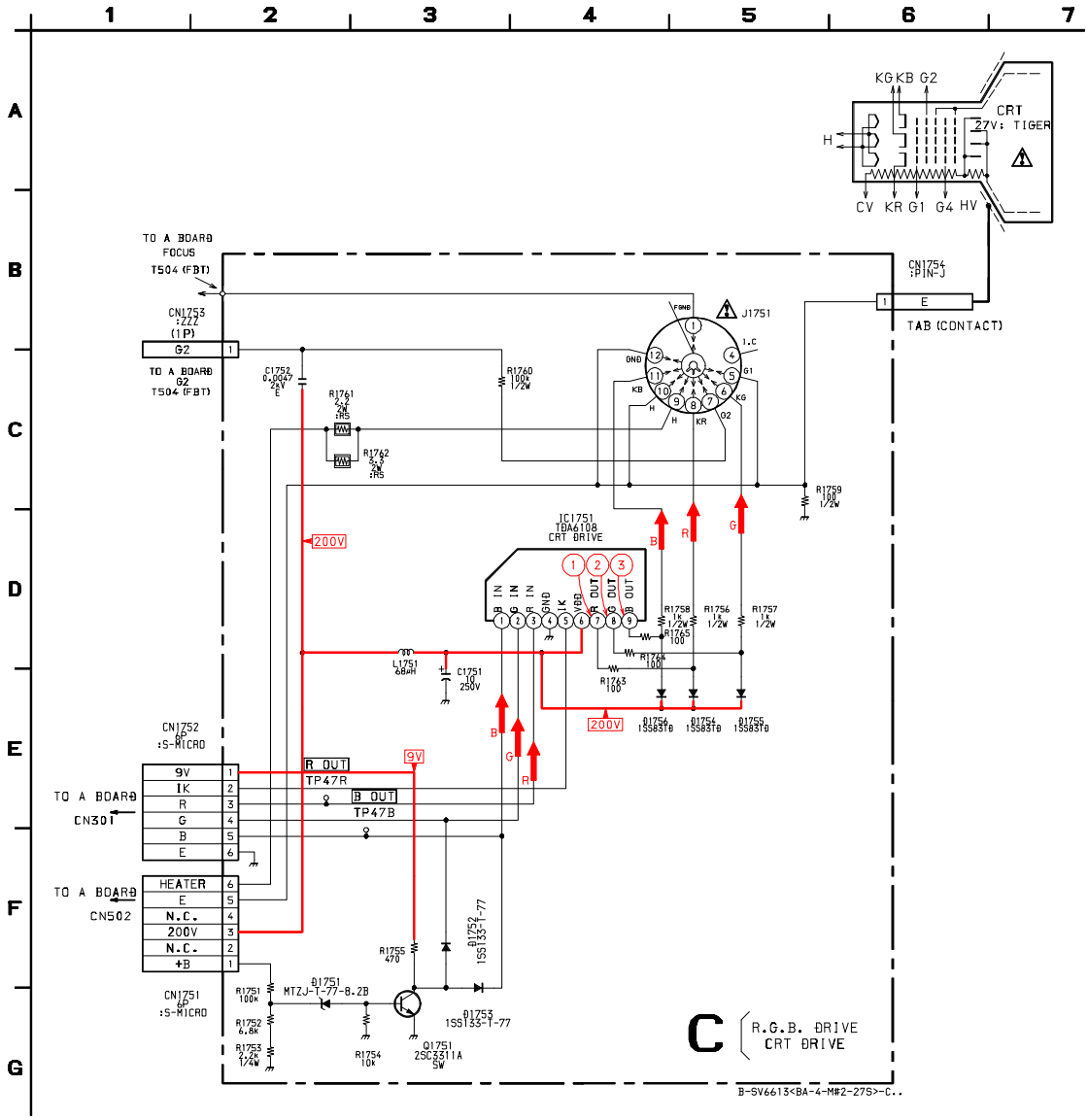
**Note: The symbol ⊣⊢ display is on the component side.**

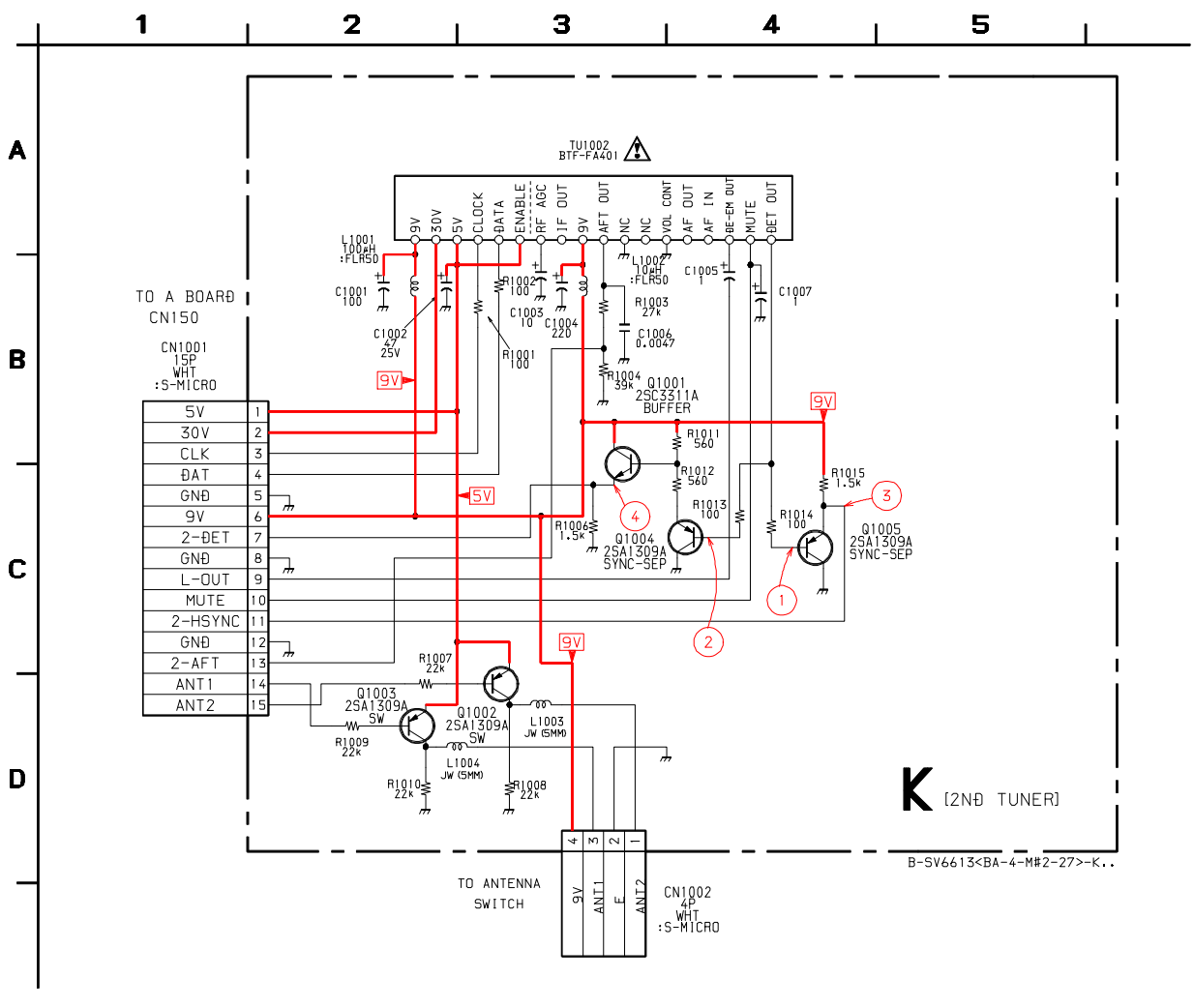
**The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

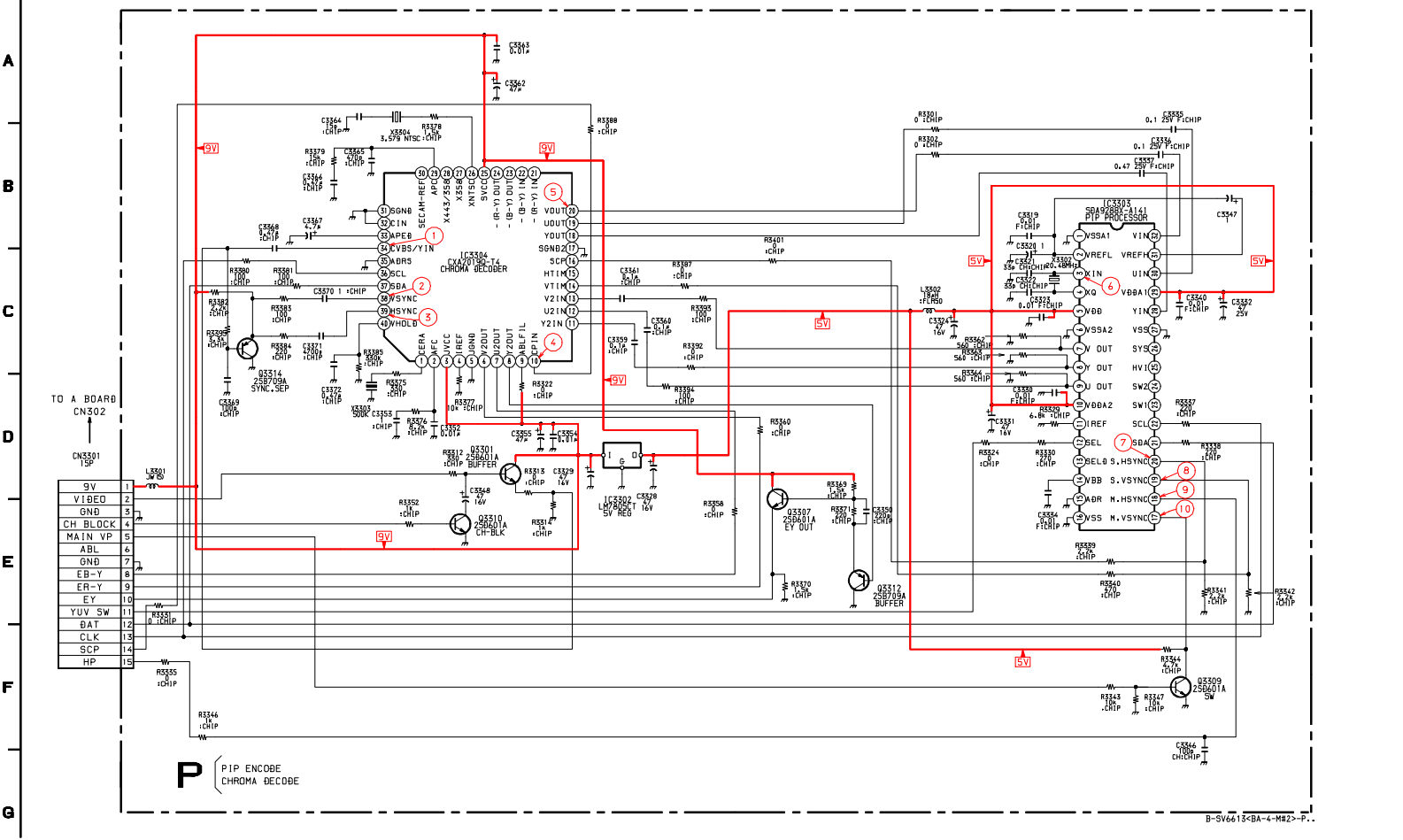
**The symbol ⊣⊢ indicates fast operating fuse. Replace only with fuse of same rating as marked.**

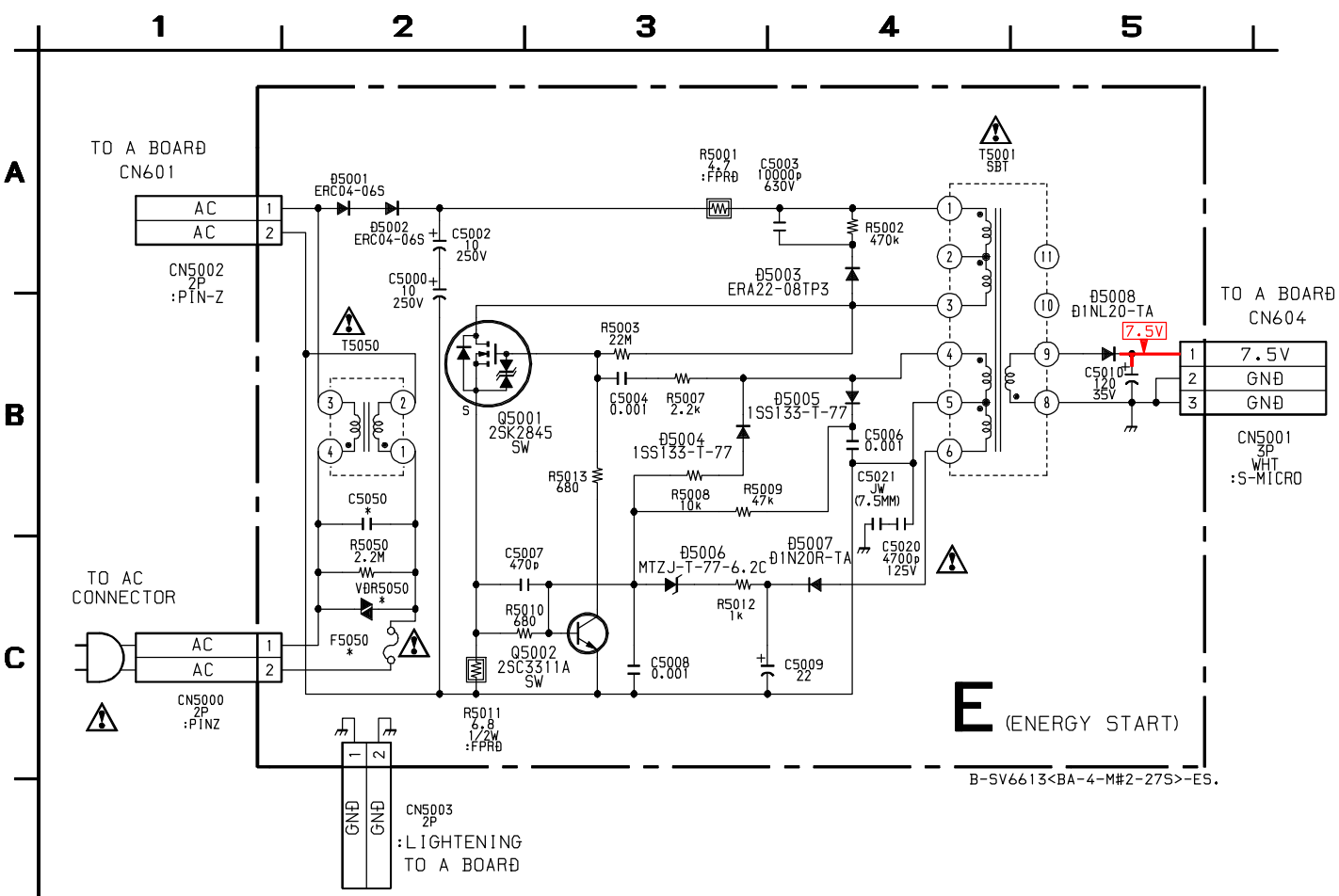

K (2ND TUNER)
P (PIP ENCODE, CHROMA DECODE)
C (RGB OUT)
E (ENERGY START)
A (MICON, Y/C JUNGLE, TUNER, VOL-CTL, AUDIO-AMP, PIN-MOD, V. DEF, H.DEF, AV-SW)
DY
HZ
TUNER TU1002
(ANTENNA) (SWITCH)
TUNER RF TU101
TUNING-MICON IC001
Y/C JUNGLE IC301
A/V SW IC201
AUDIO AMP IC401
VAR/FIX IC202
V CNTL IC 521
PIN DRIVES Q521,Q522
H-DRIVE Q501
H-OUT Q502
V OUT IC541
CHROMA DECODER IC5804
PIP PROC IC5803
5V REG IC5302
STBY +5V REG IC002
5V REG IC603
CRT 27V: T10ER
H-CENTER ADJUST

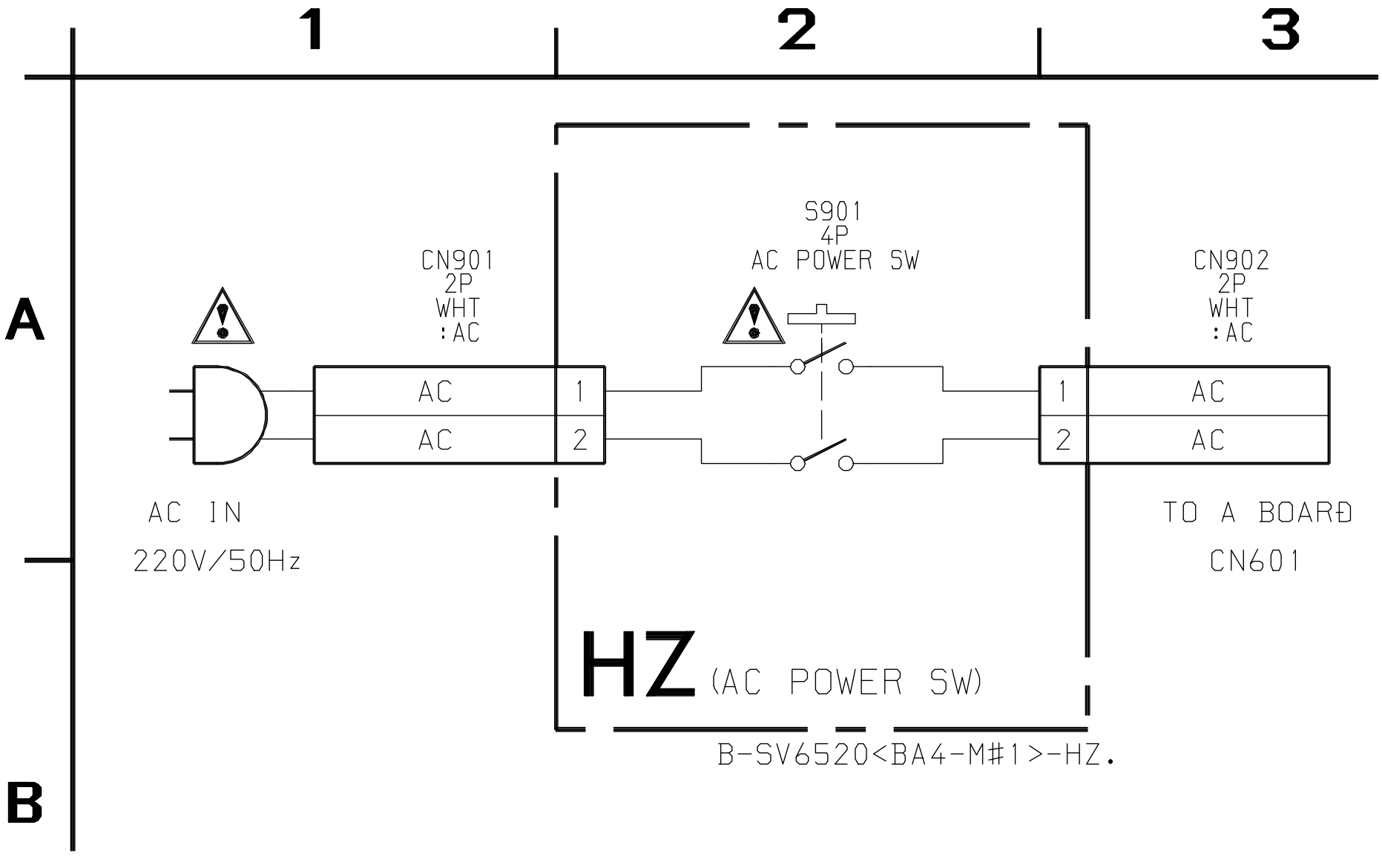

A
<TUNING CONTROL>
Y/C/J
POWER SUPPLY
DEFLECTION
TUNER/IF
AUDIO
RTS
DY
TO K BOARD CN1001 CN150 <K-BOARD>
TO C BOARD CN5001 <LIGHTENING>
TO C BOARD CN5001
TO E BOARD CN3002
TO P BOARD CN5801
TO C BOARD CN1752
TO C BOARD CN1751
TO C BOARD CN1755
TO CRT
FOCUS
HEATER
RF IN
VIDEO
AUDIO-R
AUDIO-L
AUDIO VCC
CAUTION
MADE REPLACING TAKE NO SURE TO CHECK THE VOLTAGE VALUE AT TYPE2H. REFER TO THE SAFETY ADJUSTMENT SECTION.


1
2
3
4
5
6
7
A
B
C
D
E
F
G
KG KB G2
CRT
27V: TIGER
H
CV KR G1 G4 HV
TO A BOARD
FOCUS
T504 (FBT)
CN1753
:ZZZ
(1P)
G2
TO A BOARD
G2
T504 (FBT)
C1752
0.0047
2kV
E
R1761
2.2
2W
:RS
R1762
2.2
2W
:RS
R1760
100k
1/2W
J1751
FGND
GND
KB
H
KR
G2
G1
K
I.C
CN1754
:PIN-J
E
TAB (CONTACT)
R1759
100
1/2W
IC1751
TBA6108
CRT DRIVE
B IN
G IN
R IN
GND
VDD
R OUT
G OUT
B OUT
200V
R1758
1/2W
R1756
1/2W
R1757
1/2W
R1765
100
R1764
100
R1763
100
L1751
68uH
C1751
10
250V
D1754
1SS83TB
D1754
1SS83TB
D1755
1SS83TB
CN1752
:S-MICRO
9V
IK
R
G
B
E
TO A BOARD
CN301
R OUT
TP47R
B OUT
TP47B
9V
HEATER
E
N.C.
200V
N.C.
+B
TO A BOARD
CN502
CN1751
:S-MICRO
R1755
470
D1752
1SS133-T-77
D1751
MTZJ-T-77-8.2B
R1751
100k
R1752
6.8k
R1753
2.2k
1/4W
R1754
10k
Q1751
2SC3311A
5W
D1753
1SS133-T-77
C
R.G.B. DRIVE
CRT DRIVE
B-SV6613<BA-4-M#2-27S>-C..


1
2
3
4
5
A
B
C
D
TU1002
BTF-FA401
9V
30V
5V
CLOCK
DATA
ENABLE
RF AGC
IF OUT
9V
AFT OUT
NC
NC
VOL CONT
AF OUT
AF IN
BE-EM OUT
MUTE
DET OUT
L1001
100μH
:FLR50
L1002
10μH
:FLR50
C1001
100
C1002
47
25V
C1003
10
C1004
220
C1005
1
C1006
0.0047
C1007
1
R1001
100
R1002
100
R1003
27k
R1004
39k
Q1001
2SC3311A
BUFFER
R1011
560
R1012
560
R1013
100
R1014
100
R1015
1.5k
R1006
1.5k
Q1004
2SA1309A
SYNC-SEP
Q1005
2SA1309A
SYNC-SEP
TO A BOARD
CN150
CN1001
15P
WHT
:S-MICRO
5V 1
30V 2
CLK 3
DAT 4
GND 5
9V 6
2-DET 7
GND 8
L-OUT 9
MUTE 10
2-HSYNC 11
GND 12
2-AFT 13
ANT1 14
ANT2 15
R1007
22k
Q1003
2SA1309A
SW
Q1002
2SA1309A
SW
L1003
JW (5MM)
R1009
22k
L1004
JW (5MM)
R1010
22k
R1008
22k
TO ANTENNA
SWITCH
4 9V
3 ANT1
2 E
1 ANT2
CN1002
4P
WHT
:S-MICRO
K [2ND TUNER]
B-SV6613<BA-4-M#2-27>-K..

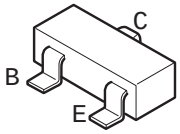

TO A BOARD
CN302
CN3301
15P
9V
VIDEO
GND
CH BLOCK
MAIN VP
ABL
GND
EB-Y
ER-Y
EY
YUV SW
DAT
CLK
SCP
HP
IC3304
CXA2018Q-T4
CHROMA DECODER
IC3303
SDA9288-A141
PIP PROCESSOR
IC3502
LM78L05CT
5V REG
Q3301
2SB601A
BUFFER
Q3310
2SB601A
CH-BLK
Q3307
2SB601A
EY OUT
Q3312
2SB709A
BUFFER
Q3314
2SB709A
SYNC.SEP
Q3309
2SB601A
SW
P
PIP ENCODE
CHROMA DECODE
B-SV6613<BA-4-M82>-P..


1
2
3
4
5
A
B
C
TO A BOARĐ
CN601
AC
AC
CN5002
2P
:PIN-Z
Đ5001
ERC04-06S
Đ5002
ERC04-06S
C5002
10
250V
C5000
10
250V
R5001
4.7
:FPRĐ
C5003
10000p
630V
R5002
470k
Đ5003
ERA22-08TP3
T5001
SBT
Đ5008
ĐINL20-TA
7.5V
C5010
120
35V
TO A BOARĐ
CN604
7.5V
GNĐ
GNĐ
CN5001
3P
WHT
:S-MICRO
T5050
R5003
22M
C5004
0.001
R5007
2.2k
Đ5005
1SS133-T-77
Đ5004
1SS133-T-77
R5013
680
R5008
10k
R5009
47k
C5006
0.001
C5021
JW
(7.5MM)
C5020
4700p
125V
Q5001
2SK2845
SW
S
C5050
*
R5050
2.2M
VĐR5050
*
F5050
*
TO AC
CONNECTOR
AC
AC
CN5000
2P
:PINZ
C5007
470p
R5010
680
Q5002
2SC3311A
SW
Đ5006
MTZJ-T-77-6.2C
Đ5007
ĐIN20R-TA
R5012
1k
C5008
0.001
C5009
22
R5011
6.8
1/2W
:FPRĐ
GNĐ
GNĐ
CN5003
2P
:LIGHTENING
TO A BOARĐ
E
(ENERGY START)
B-SV6613<BA-4-M#2-27S>-ES.

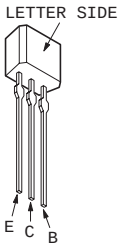

1
2
3
A
B
CN901
2P
WHT
:AC
S901
4P
AC POWER SW
CN902
2P
WHT
:AC
AC
AC
1
2
1
2
AC
AC
AC IN
220V/50Hz
TO A BOARD
CN601
HZ (AC POWER SW)
B-SV6520<BA4-M#1>-HZ.

## 6-4. SEMICONDUCTORS

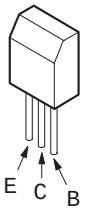
2SA1162-G
2SD601A-Q
2SA1037A-T146-R



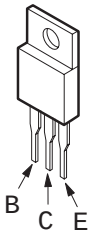

2SA1175-HFE
2SC2785-HFE
2SA933AS-QRT



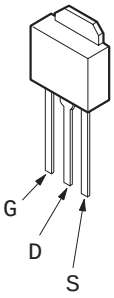

2SC3209LK
2SD1312-K
2SD774-34



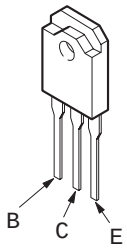

2SC4159-E



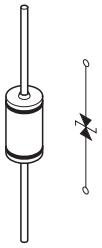

2SK2845-LB102



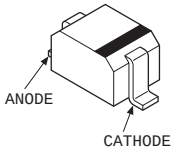

2SC5426-01



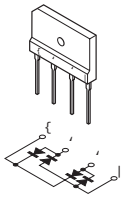

RD9.1EW



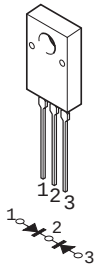
MA111



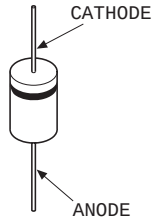

D3SB60F



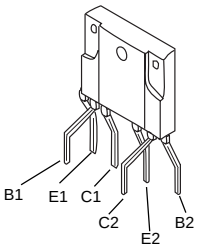
D10SC4M



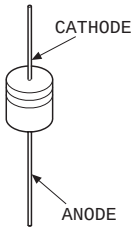

D2S4MF



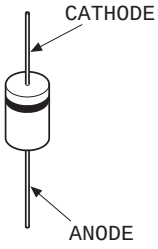

MX0541B-F



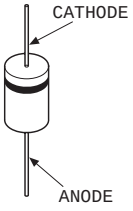

D1N20R
RD6.2ESB2
RD8.23SB2
MTZJ-5.1C
RD5.6ESB2
RD10ESB2
MTZJ-30D
RD3.3ESB2




U05G
D1NL40-TA2
ERA22-08TP3
LNK0120022G
1SS133T-77
ERC06-15S
MDV04-600
S2L60F
EZ0150AV1




D1NL20-TA
EGP20G
EL1Z
1SS83



# SECTION 7
# EXPLODED VIEWS

• Items with no part number and no description are not stocked because they are seldom required for routine service

• The component parts of an assembly are indicated by the reference numbers in the remarks column.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

**Note:**

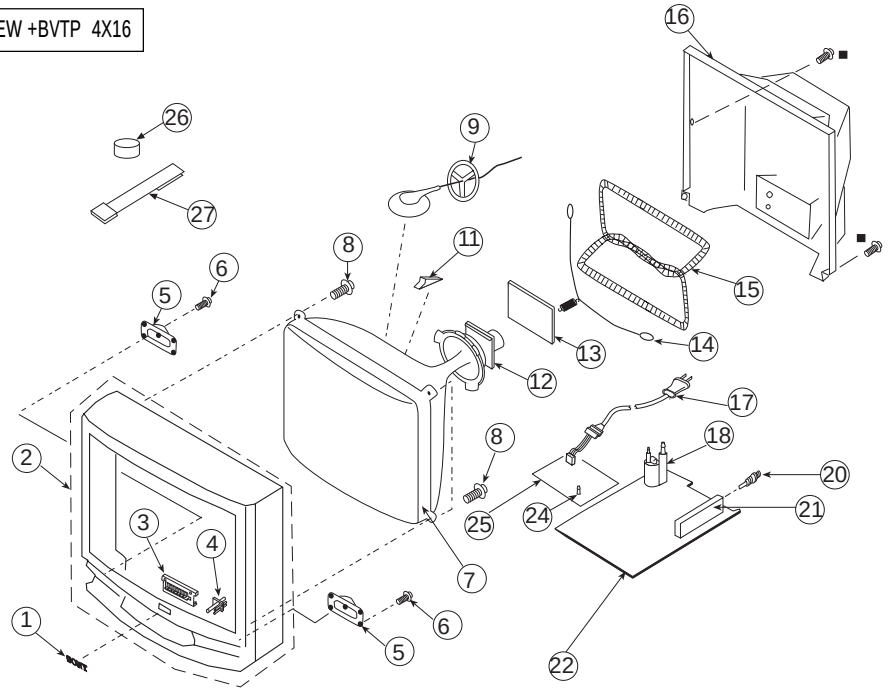
**The components identified with gray shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

## 7-1. CHASSIS (KV-27S40/27S45/29SL40/29XL40M/29XL40P/29XT11A/29SL40A/29SL40C/29SL45)

■ 7-685-663-79 SCREW +BVTP 4X16




| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| 1 | 4-046-160-11 | EMBLEM (NO.9) | |
| 2 | X-4035-815-1 | BEZNET ASSY (KV-27S40/29SL40/29SL40C) | 3,4 |
| 2 | X-4035-816-1 | BEZNET ASSY (KV-27S45/29SL45) | 3,4 |
| 2 | X-4035-818-1 | BEZNET ASSY (KV-29XL40M/29XL40P) | 3,4 |
| 2 | X-4035-819-1 | BEZNET ASSY (KV-29SL40A) | 3,4 |
| 2 | X-4035-820-1 | BEZNET ASSY (KV-29XT11A) | 3,4 |
| 3 | 4-063-573-01 | BUTTON, MULTI | |
| 4 | 4-063-570-01 | GUIDE,LED (EXCEPT KV-29XT11A/29SL40A) | |
| 4 | 4-063-570-11 | GUIDE,LED (KV-29XT11A/29SL40A ONLY) | |
| 5 | 1-504-531-11 | SPEAKER (13.1 x 6.2CM) | |
| 6 | 4-388-477-01 | SCREW (3 x 16), TAPPING, WASHER | |
| 7 ⚠ | 8-733-873-05 | CRT29NX (KV-27S45/27S40/29SL40/ 29XL40M/29XL40P/29SL45) | |
| 7 ⚠ | 8-733-874-05 | CRT29NX(KV-29XT11A/29SL40C/29SL40A) | |
| 8 | 4-041-268-01 | SCREW (7) TAPPING | |
| 9 | 3-704-372-31 | HOLDER, HV | |
| 11 | 4-053-005-01 | SPACER, DY | |
| 12 ⚠ | 8-451-486-11 | DYY29 NXA-V | |
| 13 * | A-1331-775-A | C BOARD, COMPLETE | |
| 14 | 4-036-329-01 | SPRING (B), TENSION | |
| 15 ⚠ | 1-416-588-11 | COIL, DEMAGNETIC (EXCEPT KV-29XT11A/29SL40C/29SL40A) | |
| 15 ⚠ | 1-416-589-21 | COIL, DEMAGNETIC (KV-29XT11A/29SL40C/29SL40A) | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| 16 * | 4-063-572-41 | COVER, REAR (KV-27S40/29SL40/29XL40M/ 29XL40P/29XT11A/29SL40C/29SL40A) | |
| 16 * | 4-063-572-31 | COVER, REAR (KV-27S45/29SL45) | |
| 17 ⚠ | 1-751-057-21 | CORD, POWER (KV-27S45/27S40/29SL45/29SL40/ 29XL40M/29XL40P) | |
| 17 ⚠ | 1-769-796-71 | CORD, POWER (KV-29SL40C) | |
| 17 ⚠ | 1-783-838-41 | CORD, POWER (KV-29XT11A/29SL40A) | |
| 18 ⚠ | 1-453-268-11 | TRANSFORMER ASSY, FLYBACK NX-4005//X4J4 | |
| 19 | 4-064-646-01 | CLIP, CHASSIS | |
| 20 | 1-766-374-11 | PLUG,F-PIN | |
| 21 ⚠ | 8-598-431-00 | TUNER FSS BTF-WA411 | |
| 22 * | A-1298-484-A | A BOARD, COMPLETE (KV-27S40/29SL40/29XL40M/29XL40P) | |
| 22 * | A-1298-543-A | A BOARD, COMPLETE (KV-29XT11A/29SL40A) | |
| 22 * | A-1298-542-A | A BOARD, COMPLETE (KV-29SL40C) | |
| 22 * | A-1298-483-A | A BOARD, COMPLETE (KV-27S45/29SL45) | |
| 23 * | A-1190-306-A | P BOARD, COMPLETE (KV-27S45/29SL45 only) | |
| 24 * | 3-703-353-05 | SUPPORT, PC BOARD | |
| 25 * | A-1343-525-A | E BOARD, COMPLETE (EXCEPT KV-29XT11A/29SL40C/29SL40A) | |
| 25 * | A-1343-526-A | E BOARD, COMPLETE (KV-29XT11A/29SL40C/29SL40A) | |
| 26 | 1-452-032-00 | MAGNET, DISC | |
| 27 | 4-062-047-01 | PIECE A (110) | |

• Items with no part number and no description are not stocked because they are seldom required for routine service

• The component parts of an assembly are indicated by the reference numbers in the remarks column.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

**Note:**

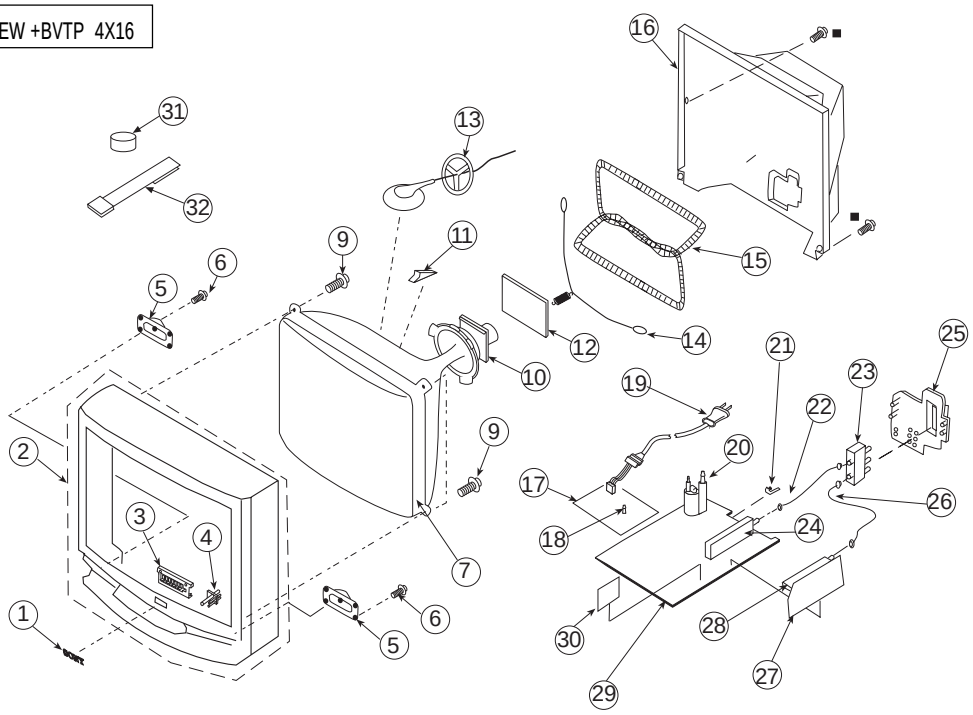
**The components identified with gray shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

## 7-2. CHASSIS (KV-27S65/29SL65/29SL65C)

■ 7-685-663-79 SCREW +BVTP 4X16




| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| 1 | 4-046-160-11 | EMBLEM (NO.9) | |
| 2 | X-4035-817-1 | BEZNET ASSY | 3,4 |
| 3 | 4-063-573-01 | BUTTON, MULTI | |
| 4 | 4-063-570-01 | GUIDE,LED | |
| 5 | 43504-531-11 | SPEAKER (13.1X6.2CM) | |
| 6 | 4-388-477-01 | SCREW (3X16),TAPPING,WASHER | |
| 7 ⚠ | 8-733-873-05 | CRT29NX (KV-27S65/29SL65) | |
| 7 ⚠ | 8-733-874-05 | CRT29 NX (KV-29SL65C) | |
| 9 | 4-041-268-01 | SCREW (7), TAPPING | |
| 10 | 8-451-486-11 | DY-Y29 NXA-V (KV-27S65/29SL65) | |
| 10 | 8-451-486-21 | DY-Y29 NXA-V2 (KV-29SL65C) | |
| 11 | 4-053-005-01 | SPACER, DY | |
| 12 * | A-1331-775-A | C BOARD, COMPLETE | |
| 13 | 3-704-372-31 | HOLDER, HV | |
| 14 | 4-036-329-01 | SPRING (B), TENSION | |
| 15 ⚠ | 1-416-588-11 | COIL, DEMAGNETIC (KV-27S65/29SL65) | |
| 15 ⚠ | 1-416-589-21 | COIL, DEMAGNETIC (KV-29SL65C) | |
| 16 * | 4-063-572-21 | COVER, REAR | |
| 17 * | A-1343-525-A | E BOARD, COMPLETE (KV-27S65/29SL65) | |
| 17 * | A-1343-526-A | E BOARD, COMPLETE (KV-29SL65C) | |
| 18 * | 3-703-353-05 | SUPPORT, PC BOARD | |
| 19 ⚠ | 1-751-057-21 | CORD, POWER (KV-27S65/29SL65) | |
| 19 ⚠ | 1-769-796-71 | CORD, POWER (KV-29SL65C) | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| 20 ⚠ | 1-453-268-11 | TRANSFORMER ASSY, FLYBACK NX-4005//X4J4 | |
| 21 | 4-064-646-01 | CLIP, CHASSIS | |
| 22 | 1-783-800-11 | CABLE, PIN | |
| 23 | 8-598-414-00 | ANTENNA SWITCH (KV-29SL65/29SL65C) | |
| 24 ⚠ | 8-598-431-00 | TUNER FSS BTF-WA411 | |
| 25 * | 4-064-176-01 | BRACKET, ANTENNA | |
| 26 | 1-557-056-31 | CABLE, P-P | |
| 27 * | A-1380-579-A | K BOARD, COMPLETE | |
| 28 ⚠ | 8-598-430-00 | TUNER FSS BTF-FA401 | |
| 29 * | A-1298-485-A | A BOARD, COMPLETE (KV-29SL65C) | |
| 29 * | A-1298-541-A | A BOARD, COMPLETE (KV-27S65/29SL65) | |
| 30 * | A-1190-306-A | P BOARD, COMPLETE (KV-29SL65/29SL65C) | |
| 31 | 1-452-032-00 | MAGNET, DISC | |
| 32 | 4-062-047-01 | PIECE A ( 110) | |

• Items with no part number and no description are not stocked because they are seldom required for routine service

• The component parts of an assembly are indicated by the reference numbers in the remarks column.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

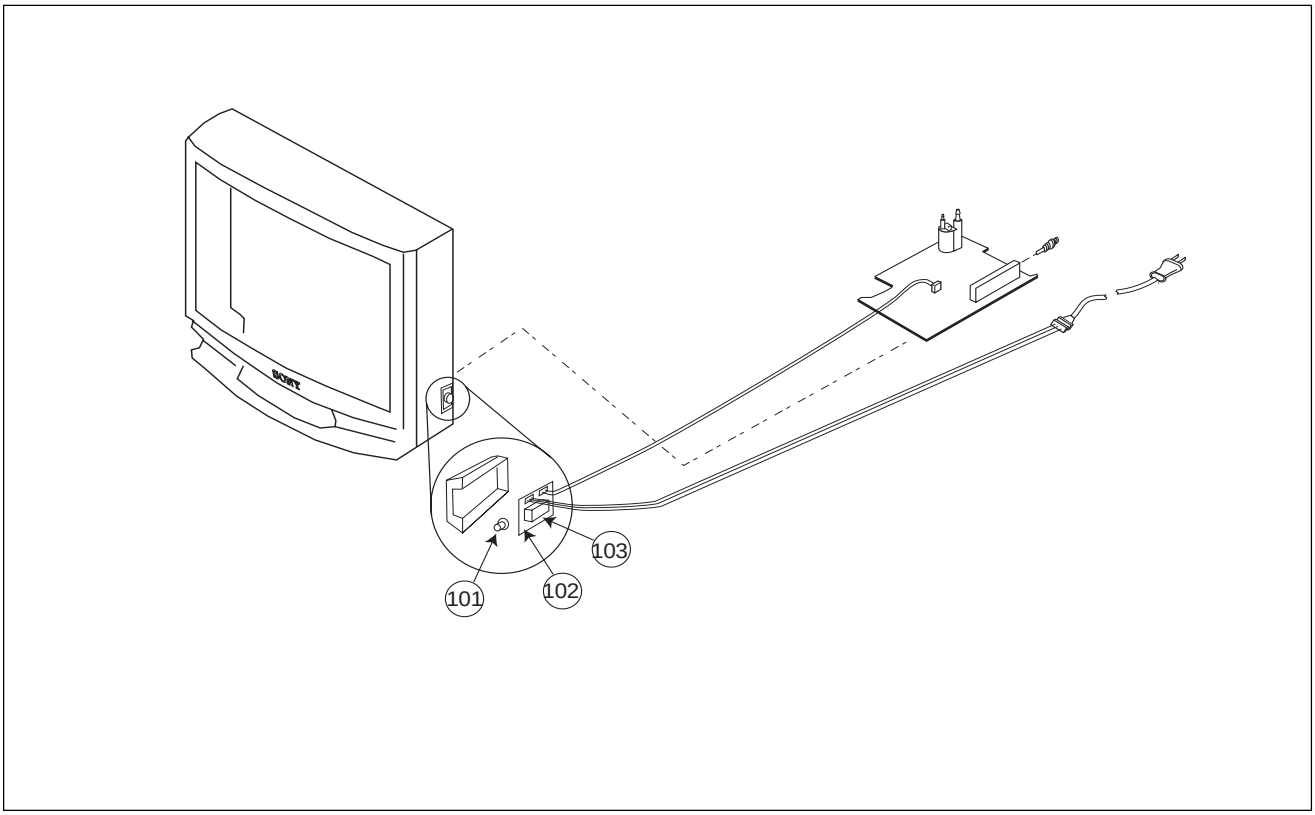
**Note:**

**The components identified with gray shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

## 7-3. MAIN POWER SWITCH (KV-29SL40A/29XT11A ONLY)




| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| 101 | 4-052-635-01 | BUTTON, MAIN POWER | |
| 102 * | A-1372-117-A | MOUNTED PCB, HZ | |
| 103 ⚠ | 4-064-265-01 | SWITCH, MAIN | |

# SECTION 8
# ELECTRICAL PARTS LIST

## PARTS LISTING TABLE OF CONTENTS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**A BOARD COMMON PARTS LIST:** Parts common to all models listed in this manual..... 59

**A BOARD VARIANT PARTS LIST:** Parts that belong only to the model specified..... 68

Refer to the designated variant parts list when seeking a part indicated by an asterisk (*) on the A board schematic or by the word "variant" on the common parts list.

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| KV-27S45/29SL45 ..... | 72 |
| KV-27S65/29SL65..... | 74 |
| KV-29SL40C..... | 76 |
| KV-29XT11A/29SL40A..... | 78 |

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**E BOARD COMPLETE PARTS LIST** (All Models)..... 79

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**P BOARD COMPLETE PARTS LIST** (KV-27S45, 29SL45, 29SL65C, 27S65, 29SL65 only) ..... 81

**HZ BOARD COMPLETE PARTS LIST** (KV-29XT11A, 29SL40A only) ..... 82

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# SECTION 8
# ELECTRICAL PARTS LIST

**Note:**

**The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.**

The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF = µF

INDUCTORS
- UH = µH, MMH = mH

When indicating parts by reference number, please include the board name.

**A**

*** A-1298-484-A A BOARD, COMPLETE (KV-27S40/29XL40M/29XL40P/29SL40)**
*** A-1298-485-A A BOARD, COMPLETE (KV-29SL65C)**
*** A-1298-483-A A BOARD, COMPLETE (KV-27S45/29SL45)**
*** A-1298-541-A A BOARD, COMPLETE (KV-27S65/29SL65)**
*** A-1298-542-A A BOARD, COMPLETE (KV-29SL40C)**
*** A-1298-543-A A BOARD, COMPLETE (KV-29XT11A/29SL40A)**

4-382-854-01 SCREW (M3X8), P, SW (+)
4-382-854-11 SCREW (M3X10), P, SW (+)

**CAPACITOR**

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| C001 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C004 | 1-107-701-11 | ELECT | 47MF | 20% | 25V |
| C005 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C006 | 1-163-035-00 | CERAMIC CHIP | 0.047MF | | 50V |
| C007 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C008 | 1-163-009-11 | CERAMIC CHIP | 0.001MF | 10% | 50V |
| C010 | 1-163-009-11 | CERAMIC CHIP | 0.001MF | 10% | 50V |
| C011 | 1-163-009-11 | CERAMIC CHIP | 0.001MF | 10% | 50V |
| C012 | 1-163-009-11 | CERAMIC CHIP | 0.001MF | 10% | 50V |
| C014 | 1-164-004-11 | CERAMIC CHIP | 0.1MF | 10% | 25V |
| C017 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C019 | 1-163-135-00 | CERAMIC CHIP | 560PF | 5% | 50V |
| C020 | 1-130-495-00 | FILM | 0.1MF | 5% | 50V |
| C021 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C028 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V |
| C030 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C034 | 1-163-037-11 | CERAMIC CHIP | 0.022MF | 10% | 50V |
| C037 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF | 10% | 50V |
| C038 | 1-126-941-11 | ELECT | 470MF | 20% | 25V |
| C039 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C046 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C047 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C048 | 1-163-009-11 | CERAMIC CHIP | 0.001MF | 10% | 50V |
| C050 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C051 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C052 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C053 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C060 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V |
| C062 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF | 10% | 50V |
| C065 | 1-163-009-11 | CERAMIC CHIP | 0.001MF | 10% | 50V |
| C070 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C074 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C080 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C081 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C091 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C092 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C101 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C102 | 1-126-382-11 | ELECT | 100MF | 20% | 16V |
| C150 | 1-126-941-11 | ELECT | 470MF | 20% | 25V |
| C151 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C200 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C201 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C202 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C207 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C208 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C209 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C211 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C212 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C213 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C216 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C217 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C218 | 1-126-941-11 | ELECT | 470MF | 20% | 25V |
| C219 | 1-130-495-00 | FILM | 0.1MF | 5% | 50V |
| C222 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C223 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C225 | 1-163-017-00 | CERAMIC CHIP | 0.0047MF | 10% | 50V |
| C250 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C251 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C252 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C255 | 1-104-760-11 | CERAMIC CHIP | 0.047MF | 10% | 50V |
| C256 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C257 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C258 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |

# A COMMON PARTS LISTING

**Note:**

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**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| C259 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C284 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C285 | 1-126-235-11 | ELECT | 100MF | 20% | 16V |
| C286 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C287 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C288 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C289 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C300 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C301 | 1-163-099-00 | CERAMIC CHIP | 18PF | 5% | 50V |
| C302 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C303 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C304 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C305 | 1-164-004-11 | CERAMIC CHIP | 0.1MF | 10% | 25V |
| C306 | 1-164-004-11 | CERAMIC CHIP | 0.1MF | 10% | 25V |
| C307 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C308 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C309 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C310 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C311 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C312 | 1-126-942-61 | ELECT | 1000MF | 20% | 25V |
| C313 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C314 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C315 | 1-102-244-00 | CERAMIC | 220PF | 10% | 500V |
| C316 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C317 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C318 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C319 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C320 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C321 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C323 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C324 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C325 | 1-102-110-00 | CERAMIC | 220PF | 10% | 50V |
| C330 | 1-163-003-11 | CERAMIC CHIP | 330PF | 10% | 50V |
| C331 | 1-163-005-11 | CERAMIC CHIP | 470PF | 10% | 50V |
| C350 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C351 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C352 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C353 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C354 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C355 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C356 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C357 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C358 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C359 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C360 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C361 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C362 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C370 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C371 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C372 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C373 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C374 | 1-126-935-11 | ELECT | 470MF | 20% | 16V |
| C375 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C376 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C377 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C380 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C381 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C382 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| C390 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C399 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C400 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C401 | 1-126-956-91 | ELECT | 0.1MF | 20% | 50V |
| C402 | 1-163-017-00 | CERAMIC CHIP | 0.0047MF | 10% | 50V |
| C403 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C404 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C405 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C406 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C407 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C410 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C411 | 1-126-956-91 | ELECT | 0.1MF | 20% | 50V |
| C412 | 1-130-495-00 | FILM | 0.1MF | 5% | 50V |
| C413 | 1-126-967-11 | ELECT | 47MF | 20% | 50V |
| C414 | 1-163-017-00 | CERAMIC CHIP | 0.0047MF | 10% | 50V |
| C415 | 1-126-956-91 | ELECT | 0.1MF | 20% | 50V |
| C416 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C418 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C420 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C501 | 1-102-112-00 | CERAMIC | 330PF | 10% | 50V |
| C502 | 1-106-383-00 | MYLAR | 0.047MF | 10% | 200V |
| C503 | 1-102-212-00 | CERAMIC | 820PF | 10% | 500V |
| C504 | 1-102-002-00 | CERAMIC | 680PF | 10% | 500V |
| C505 ⚠ | 1-162-134-11 | CERAMIC | 470PF | 10% | 2KV |
| C507 ⚠ | 1-119-969-11 | MYLAR | 14000PF | 3% | 2KV |
| C508 ⚠ | 1-107-364-11 | MYLAR | 0.01MF | 10% | 200V |
| C509 ⚠ | 1-162-116-00 | CERAMIC | 680PF | 10% | 2KV |
| C510 | 1-107-649-11 | ELECT | 2.2MF | 20% | 250V |
| C511 ⚠ | 1-117-673-11 | FILM | 1.5MF | 5% | 200V |
| C512 | 1-106-395-00 | MYLAR | 0.15MF | 10% | 200V |
| C513 | 1-106-343-00 | MYLAR | 0.001MF | 10% | 100V |
| C514 | 1-117-891-11 | FILM | 0.62MF | 5% | 200V |
| C515 ⚠ | 1-162-116-00 | CERAMIC | 680PF | 10% | 2KV |
| C520 ⚠ | 1-129-722-00 | FILM | 0.047MF | 5% | 630V |
| C521 | 1-164-646-11 | CERAMIC | 2200PF | 10% | 500V |
| C524 | 1-102-244-00 | CERAMIC | 220PF | 10% | 500V |
| C525 | 1-162-815-11 | CERAMIC | 47PF | 5% | 500V |
| C526 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C527 | 1-126-965-11 | ELECT | 22MF | 20% | 50V |

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| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| C528 | 1-164-695-11 | CERAMIC CHIP | 0.0022MF | 5% | 50V |
| C529 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF | 10% | 50V |
| C530 | 1-163-009-11 | CERAMIC CHIP | 0.001MF | 10% | 50V |
| C531 | 1-106-387-00 | MYLAR | 0.068MF | 10% | 200V |
| C541 | 1-126-969-11 | ELECT | 220MF | 20% | 50V |
| C542 | 1-126-967-11 | ELECT | 47MF | 20% | 50V |
| C543 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C553 | 1-107-662-11 | ELECT | 22MF | 20% | 250V |
| C555 | 1-164-161-11 | CERAMIC CHIP | 0.0022MF | 10% | 50V |
| C562 | 1-126-941-11 | ELECT | 470MF | 20% | 25V |
| C564 | 1-126-941-11 | ELECT | 470MF | 20% | 25V |
| C571 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C573 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C574 | 1-107-635-11 | ELECT | 4.7MF | 20% | 160V |
| C575 | 1-164-232-11 | CERAMIC CHIP | 0.01MF | 10% | 50V |
| C576 | 1-123-024-21 | ELECT | 33MF | | 160V |
| C591 | 1-137-417-11 | MYLAR | 0.0047MF | 10% | 200V |
| C604 ⚠ | 1-113-920-11 | CERAMIC | 0.0022MF | 20% | 250V |
| C605 ⚠ | 1-113-920-11 | CERAMIC | 0.0022MF | 20% | 250V |
| C606 ⚠ | 1-117-894-11 | ELECT | 560MF | 20% | 250V |
| C607 ⚠ | 1-117-894-11 | ELECT | 560MF | 20% | 250V |
| C608 ⚠ | 1-113-910-11 | CERAMIC | 470PF | 10% | 250V |
| C609 ⚠ | 1-113-910-11 | CERAMIC | 470PF | 10% | 250V |
| C610 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C611 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C612 | 1-164-735-11 | CERAMIC | 0.0015MF | 10% | 500V |
| C613 | 1-164-625-11 | CERAMIC | 680PF | 10% | 500V |
| C614 ⚠ | 1-129-718-00 | FILM | 0.022MF | 5% | 630V |
| C615 | 1-136-169-00 | FILM | 0.22MF | 5% | 50V |
| C616 | 1-136-169-00 | FILM | 0.22MF | 5% | 50V |
| C617 | 1-165-127-11 | CERAMIC | 470PF | 10% | 500V |
| C618 | 1-165-127-11 | CERAMIC | 470PF | 10% | 500V |
| C619 | 1-123-024-21 | ELECT | 33MF | | 160V |
| C620 | 1-126-942-61 | ELECT | 1000MF | 20% | 25V |
| C621 | 1-126-941-11 | ELECT | 470MF | 20% | 25V |
| C623 | 1-137-368-11 | FILM | 0.0047MF | 5% | 50V |
| C624 | 1-137-417-11 | MYLAR | 0.0047MF | 10% | 200V |
| C626 | 1-104-665-11 | ELECT | 100MF | 20% | 25V |
| C629 | 1-104-665-11 | ELECT | 100MF | 20% | 25V |
| C632 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C653 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C654 | 1-126-382-11 | ELECT | 100MF | 20% | 16V |
| C690 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C691 | 1-126-941-11 | ELECT | 470MF | 20% | 25V |
| C692 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C693 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| | **FILTER** | | |
| CF001 | 1-767-487-11 | VIBRATOR, CRYSTAL | |
| | **CONNECTOR** | | |
| CN101 | 1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P | |
| CN150 | | VARIANT (SEE VARIANT PARTS LIST) | |
| CN203 * | 1-560-124-00 | PLUG, CONNECTOR (2.5MM) 4P | |
| CN301 * | 1-564-509-11 | PLUG, CONNECTOR 6P | |
| CN302 | | VARIANT (SEE VARIANT PARTS LIST) | |
| CN401 | 1-564-505-11 | PLUG, CONNECTOR 2P | |
| CN402 | 1-564-505-11 | PLUG, CONNECTOR 2P | |
| CN501 | 1-580-798-11 | PIN, CONNECTOR (DY) 6P | |
| CN502 * | 1-564-509-11 | PLUG, CONNECTOR 6P | |
| CN601 * | 1-580-843-11 | PIN, CONNECTOR (POWER) | |
| CN602 | 1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P | |
| CN604 * | 1-564-506-11 | PLUG, CONNECTOR 3P | |
| | **DIODE** | | |
| D001 | 8-719-921-44 | DIODE MTZJ-5.1C | |
| D002 | | VARIANT (SEE VARIANT PARTS LIST) | |
| D003 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D004 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D005 | 8-719-109-89 | DIODE RD5.6ESB2 | |
| D080 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D201 | 8-719-110-17 | DIODE RD10ESB2 | |
| D202 | 8-719-110-17 | DIODE RD10ESB2 | |
| D204 | 8-719-110-17 | DIODE RD10ESB2 | |
| D205 | 8-719-982-22 | DIODE MTZJ-30D | |
| D207 | 8-719-109-66 | DIODE RD3.3ESB2 | |
| D208 | 8-719-110-17 | DIODE RD10ESB2 | |
| D250 | 8-719-108-12 | DIODE RD9.1EW | |
| D251 | 8-719-108-12 | DIODE RD9.1EW | |
| D252 | 8-719-110-17 | DIODE RD10ESB2 | |
| D253 | 8-719-110-17 | DIODE RD10ESB2 | |
| D254 | 8-719-110-17 | DIODE RD10ESB2 | |
| D255 | 8-719-110-17 | DIODE RD10ESB2 | |
| D301 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D302 | 8-719-921-44 | DIODE MTZJ-5.1C | |
| D303 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D304 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D305 | 8-719-404-49 | DIODE MA111 | |
| D306 | 8-719-404-49 | DIODE MA111 | |
| D403 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D501 | 8-719-945-80 | DIODE ERC06-15S | |
| D502 | 8-719-908-03 | DIODE GP08D | |
| D503 | 8-719-908-03 | DIODE GP08D | |
| D520 | 8-719-067-63 | DIODE MDV04-600 | |
| D521 | 8-719-302-43 | DIODE EL1Z | |

# A COMMON PARTS LISTING

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| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| D522 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D523 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D541 | 8-719-908-03 | DIODE GP08D | |
| D550 | 8-719-110-08 | DIODE RD8.2ESB2 | |
| D552 | 8-719-302-43 | DIODE EL1Z | |
| D561 | 8-719-979-85 | DIODE EGP20G | |
| D562 | 8-719-979-85 | DIODE EGP20G | |
| D571 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D572 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D573 | 8-719-110-08 | DIODE RD8.2ESB2 | |
| ⚠ D574 | 8-719-302-43 | DIODE EL1Z | |
| D581 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D601 | 8-719-510-51 | DIODE D3SB60F | |
| D602 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D604 | 8-719-060-90 | DIODE S2L60F | |
| D605 | 8-719-060-90 | DIODE S2L60F | |
| ⚠ D610 | 8-719-057-52 | DIODE EZ0150AV1 | |
| D615 | 8-719-510-12 | DIODE D10SC4M | |
| D618 | 8-719-022-97 | DIODE D2S4MF | |
| D620 | 8-719-022-97 | DIODE D2S4MF | |
| D621 | 8-719-052-90 | DIODE D1NL40-TA2 | |
| D622 | 8-719-052-90 | DIODE D1NL40-TA2 | |
| D650 | 8-719-109-89 | DIODE RD5.6ESB2 | |
| D670 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D690 | 8-719-991-33 | DIODE 1SS133T-77 | |
| D691 | 8-719-991-33 | DIODE 1SS133T-77 | |
| | **FERRITE BEAD** | | |
| FB350 | | VARIANT (SEE VARIANT PARTS LIST) | |
| FB501 | 1-410-396-41 | FERRITE 0.45UH | |
| FB521 | 1-410-397-21 | FERRITE 1.1UH | |
| FB522 | 1-410-397-21 | FERRITE 1.1UH | |
| FB601 | 1-410-396-41 | FERRITE 0.45UH | |
| FB602 | 1-410-396-41 | FERRITE 0.45UH | |
| FB603 | 1-412-911-11 | FERRITE 0UH | |
| FB605 | 1-412-911-11 | FERRITE 0UH | |
| | **IC** | | |
| IC001 | 8-759-496-18 | IC M37273MF-XXXSP | |
| IC002 | 8-759-371-21 | IC MM1319AFBE | |
| IC003 | 8-759-353-44 | IC ST24C08FM6TR | |
| IC004 | 8-742-014-11 | HYB IC SBX1981-51 | |
| IC010 | | VARIANT (SEE VARIANT PARTS LIST) | |
| IC202 | 8-759-100-96 | IC UPC4558G2 | |
| IC203 | 8-759-534-81 | IC MM1313AD | |
| IC301 | | VARIANT (SEE VARIANT PARTS LIST) | |
| IC302 | | VARIANT (SEE VARIANT PARTS LIST) | |
| IC401 | 8-759-490-17 | IC TDA7057AQ/N2 | |
| | 4-382-854-11 | SCREW (M3X10), P, SW (+) (for IC401) | |
| IC402 | 8-752-072-39 | IC CXA2021S | |
| ⚠ IC521 | 8-759-700-07 | IC NJM2903M | |
| IC541 | 8-759-980-58 | IC TDA8172 | |
| ⚠ IC601 | 8-729-039-65 | TRANSISTOR MX0541B-F | |
| ⚠ IC603 | 8-749-012-13 | IC DM-58 | |
| IC604 | 8-759-198-03 | IC PQ09RF21 | |
| | **JACK** | | |
| J200 | 1-774-750-21 | JACK BLOCK, 2P | |
| J201 | | VARIANT (SEE VARIANT PARTS LIST) | |
| J202 | | VARIANT (SEE VARIANT PARTS LIST) | |
| | **CHIP CONDUCTOR** | | |
| JR001 | 1-216-295-91 | SHORT | |
| JR003 | 1-216-295-91 | SHORT | |
| | **COIL** | | |
| L001 | 1-410-470-11 | INDUCTOR 10UH | |
| L002 | 1-412-032-11 | INDUCTOR CHIP 100UH | |
| L003 | 1-412-032-11 | INDUCTOR CHIP 100UH | |
| L101 | 1-412-029-11 | INDUCTOR CHIP 10UH | |
| L150 | 1-412-032-11 | INDUCTOR CHIP 100UH | |
| L151 | 1-412-029-11 | INDUCTOR CHIP 10UH | |
| L301 | 1-412-031-11 | INDUCTOR CHIP 47UH | |
| L302 | 1-412-029-11 | INDUCTOR CHIP 10UH | |
| L350 | | VARIANT (SEE VARIANT PARTS LIST) | |
| L351 | | VARIANT (SEE VARIANT PARTS LIST) | |
| ⚠ L501 | 1-411-976-11 | COIL, HORIZONTAL LINEARITY | |
| L502 | 1-412-552-11 | INDUCTOR 2.2MMH | |
| L503 | 1-406-677-11 | INDUCTOR 0UH | |
| L504 | 1-412-533-21 | INDUCTOR 47UH | |
| L520 | 1-409-955-11 | INDUCTOR 8UH | |
| ⚠ L591 | 1-412-528-61 | INDUCTOR 18UH | |
| | **IC LINK** | | |
| PS201 | 1-532-984-11 | LINK, IC 2A/50V | |
| | **TRANSISTOR** | | |
| Q001 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q002 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q081 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q200 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q201 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q203 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q204 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| Q286 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q287 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q288 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q300 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q302 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q305 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q306 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q307 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q308 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q309 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q310 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q350 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q351 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q352 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q353 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q354 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q355 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q356 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q357 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q358 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q359 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q360 | | VARIANT (SEE VARIANT PARTS LIST) | |
| Q400 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q501 | 8-729-140-50 | TRANSISTOR 2SC3209LK | |
| Q502 | 8-729-043-43 | TRANSISTOR 2SC5426-01 | |
| Q521 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q522 | 8-729-809-29 | TRANSISTOR 2SC4159-E | |
| Q550 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q555 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q571 | 8-729-200-17 | TRANSISTOR 2SA1091-O | |
| Q601 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q604 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q608 | 8-729-119-76 | TRANSISTOR 2SA1175-HFE | |
| Q650 | 8-729-111-55 | TRANSISTOR 2SD1312-K | |
| Q670 | 8-729-140-96 | TRANSISTOR 2SD774-34 | |

**RESISTOR**

| | | | | | |
|---|---|---|---|---|---|
| R001 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R002 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R003 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R004 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R005 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R006 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R007 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R008 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R010 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R011 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R013 | 1-216-081-00 | RES, CHIP | 22K | 5% | 1/10W |
| R016 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R017 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R018 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R019 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R020 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R021 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R022 | 1-249-416-11 | CARBON | 820 | 5% | 1/4W |
| R023 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R025 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R026 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R027 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R028 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R031 | 1-216-045-00 | RES, CHIP | 680 | 5% | 1/10W |
| R032 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R033 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R034 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R035 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R038 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R040 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R043 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R044 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R045 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R046 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R047 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R048 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R049 | 1-216-089-91 | RES, CHIP | 47K | 5% | 1/10W |
| R050 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R051 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R054 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R056 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R057 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R058 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R065 | 1-216-295-91 | SHORT | 0 | | |
| R064 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R066 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R067 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R068 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R069 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R070 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R071 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R073 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R074 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R075 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R076 | 1-216-121-91 | RES, CHIP | 1M | 5% | 1/10W |
| R077 | 1-216-097-91 | RES, CHIP | 100K | 5% | 1/10W |
| R078 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R081 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R085 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R086 | 1-216-045-00 | RES, CHIP | 680 | 5% | 1/10W |
| R087 | 1-216-045-00 | RES, CHIP | 680 | 5% | 1/10W |
| R088 | 1-216-045-00 | RES, CHIP | 680 | 5% | 1/10W |
| R090 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R091 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R092 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R096 | 1-216-045-00 | RES, CHIP | 680 | 5% | 1/10W |
| R101 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R150 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R151 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R200 | 1-216-022-00 | RES, CHIP | 75 | 5% | 1/10W |
| R201 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R202 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R203 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R204 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R205 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R207 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R209 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R210 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R211 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R212 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R213 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R214 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R215 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R216 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R217 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R218 | 1-216-067-00 | RES, CHIP | 5.6K | 5% | 1/10W |
| R219 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R220 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R221 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R222 | 1-216-067-00 | RES, CHIP | 5.6K | 5% | 1/10W |
| R223 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R224 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R225 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R226 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R227 | 1-216-097-91 | RES, CHIP | 100K | 5% | 1/10W |
| R228 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R229 | 1-216-097-91 | RES, CHIP | 100K | 5% | 1/10W |
| R230 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R231 | 1-216-055-00 | RES, CHIP | 1.8K | 5% | 1/10W |
| R232 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R233 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R236 | 1-249-420-11 | CARBON | 1.8K | 5% | 1/4W |
| R241 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R242 | 1-216-083-00 | RES, CHIP | 27K | 5% | 1/10W |
| R243 | 1-216-689-11 | RES, CHIP | 39K | 5% | 1/10W |
| R244 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R245 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R246 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R247 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R248 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R249 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R250 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R251 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R252 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R253 | 1-215-899-11 | METAL OXIDE | 15K | 5% | 2W F |
| R254 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R257 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R260 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R261 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R262 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R263 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R264 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R265 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R266 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R267 | 1-216-022-00 | RES, CHIP | 75 | 5% | 1/10W |
| R268 | 1-216-022-00 | RES, CHIP | 75 | 5% | 1/10W |
| R269 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R270 | 1-216-022-00 | RES, CHIP | 75 | 5% | 1/10W |
| R271 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R272 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R273 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R274 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R276 | 1-216-295-91 | SHORT | | | |
| R277 | 1-216-295-91 | SHORT | | | |
| R278 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R279 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R296 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R297 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R298 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R299 | 1-249-425-11 | CARBON | 4.7K | 5% | 1/4W |
| R300 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R301 | 1-216-295-91 | SHORT | | | |
| R302 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R304 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R305 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R306 | 1-208-806-11 | RES, CHIP | 10K | 0.50% | 1/10W |
| R307 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R308 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R309 | 1-249-431-11 | CARBON | 15K | 5% | 1/4W |
| R310 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R311 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R312 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R313 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R314 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R315 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |

**Note:**

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R316 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R317 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R318 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R319 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R320 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R321 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R322 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R323 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R324 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R328 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R329 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R330 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R331 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R333 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R334 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R335 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R336 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R337 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R340 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R341 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R342 | 1-216-069-00 | RES, CHIP | 6.8K | 5% | 1/10W |
| R343 | 1-216-129-00 | RES, CHIP | 2.2M | 5% | 1/10W |
| R344 | 1-216-295-91 | SHORT | | | |
| R345 | 1-216-129-00 | RES, CHIP | 2.2M | 5% | 1/10W |
| R346 | 1-216-129-00 | RES, CHIP | 2.2M | 5% | 1/10W |
| R347 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R350 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R351 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R352 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R353 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R354 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R355 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R356 | 1-216-059-00 | RES, CHIP | 2.7K | 5% | 1/10W |
| R357 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R358 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R359 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R361 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R362 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R363 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R364 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R365 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R366 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R367 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R368 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R369 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R370 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R372 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R373 | | VARIANT (SEE VARIANT PARTS LIST) | | | |

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R374 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R375 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R376 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R377 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R378 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R379 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R380 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R381 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R387 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R388 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R399 | 1-216-295-91 | SHORT | | | |
| R400 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R401 | 1-216-097-91 | RES, CHIP | 100K | 5% | 1/10W |
| R402 | 1-216-121-91 | RES, CHIP | 1M | 5% | 1/10W |
| R403 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R404 | 1-247-815-91 | CARBON | 220 | 5% | 1/4W |
| R405 | 1-216-097-91 | RES, CHIP | 100K | 5% | 1/10W |
| R406 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R432 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R501 | 1-247-843-11 | CARBON | 3.3K | 5% | 1/4W |
| R502 | 1-215-892-11 | METAL OXIDE | 1K | 5% | 2W F |
| R503 | 1-249-426-11 | CARBON | 5.6K | 5% | 1/4W F |
| R504 | 1-216-349-00 | METAL OXIDE | 1 | 5% | 1W F |
| R505 | 1-249-401-11 | CARBON | 47 | 5% | 1/4W |
| R506 | 1-215-860-11 | METAL OXIDE | 33 | 5% | 1W F |
| R507 | 1-260-097-11 | CARBON | 680 | 5% | 1/2W |
| R508 | 1-216-449-11 | METAL OXIDE | 56 | 5% | 2W F |
| R509 | 1-216-481-11 | METALOXIDE | 1.2K | 5% | 3W F |
| R510 | 1-216-449-11 | METAL OXIDE | 56 | 5% | 2W F |
| R520 | 1-215-861-00 | METAL OXIDE | 47 | 5% | 1W F |
| R521 | 1-249-411-11 | CARBON | 330 | 5% | 1/4W |
| R522 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R523 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R524 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R525 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R526 | 1-216-081-00 | RES, CHIP | 22K | 5% | 1/10W |
| R527 | 1-216-079-00 | RES, CHIP | 18K | 5% | 1/10W |
| R528 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R529 | 1-216-101-00 | RES, CHIP | 150K | 5% | 1/10W |
| R530 | 1-216-097-91 | RES, CHIP | 100K | 5% | 1/10W |
| R532 | 1-215-437-00 | METAL | 4.7K | 1% | 1/4W |
| R533 ⚠ | 1-215-461-00 | METAL | 47K | 1% | 1/4W |
| R534 | 1-215-451-00 | METAL | 18K | 1% | 1/4W |
| R535 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R541 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R542 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R543 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R544 | 1-216-351-00 | METAL OXIDE | 1.5 | 5% | 1W F |

# A COMMON PARTS LISTING

**Note:**

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.**

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R546 | 1-215-890-11 | METAL OXIDE | 470 | 5% | 2W F |
| R547 | 1-249-385-11 | CARBON | 2.2 | 5% | 1/4W F |
| R548 | 1-249-430-11 | CARBON | 12K | 5% | 1/4W |
| R549 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R550 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R551 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R552 | 1-247-887-00 | CARBON | 220K | 5% | 1/4W |
| R553 | 1-260-312-11 | CARBON | 47 | 5% | 1/2W |
| R554 | 1-216-097-91 | RES, CHIP | 100K | 5% | 1/10W |
| R557 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R558 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R559 | 1-216-113-00 | RES, CHIP | 470K | 5% | 1/10W |
| R561 ⚠ | 1-249-377-11 | CARBON | 0.47 | 5% | 1/4W F |
| R562 ⚠ | 1-260-288-11 | CARBON | 0.47 | 5% | 1/2W |
| R571 | 1-216-365-00 | METAL OXIDE | 0.47 | 5% | 2W F |
| R572 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R573 | 1-247-895-91 | CARBON | 470K | 5% | 1/4W |
| R574 | 1-249-418-11 | CARBON | 1.2K | 5% | 1/4W F |
| R575 | 1-247-895-91 | CARBON | 470K | 5% | 1/4W |
| R576 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R577 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R578 | 1-215-902-11 | METAL OXIDE | 47K | 5% | 1W F |
| R579 | 1-208-777-11 | RES, CHIP | 620 | 0.50% | 1/10W |
| R580 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R581 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R582 | 1-208-806-11 | RES, CHIP | 10K | 0.50% | 1/10W |
| R583 | 1-208-830-11 | RES, CHIP | 100K | 0.50% | 1/10W |
| ⋈R584 | 1-208-822-11 | RES, CHIP | 47K | 0.50% | 1/10W |
| R585 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R586 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R587 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R591 | 1-215-882-00 | METAL OXIDE | 22 | 5% | 2W F |
| R600 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R601 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R602 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R603 | | VARIANT (SEE VARIANT PARTS LIST) | | | |
| R604 | 1-260-131-11 | CARBON | 470K | 5% | 1/2W |
| R605 | 1-260-131-11 | CARBON | 470K | 5% | 1/2W |
| R606 | 1-220-926-11 | FUSIBLE | 0.47 | 10% | 1/2W F |
| R608 | 1-220-388-21 | METAL OXIDE | 68K | 5% | 1WF |
| R609 | 1-220-388-21 | METAL OXIDE | 68K | 5% | 1W F |
| R610 | 1-220-388-21 | METAL OXIDE | 68K | 5% | 1W F |
| R611 | 1-220-388-21 | METAL OXIDE | 68K | 5% | 1W F |
| R612 | 1-216-353-00 | METAL OXIDE | 2.2 | 5% | 1W F |
| R613 | 1-216-353-00 | METAL OXIDE | 2.2 | 5% | 1W F |
| R618 | 1-212-857-00 | FUSIBLE | 10 | 5% | 1/4W F |
| R622 | 1-249-393-11 | CARBON | 10 | 5% | 1/4W |
| R623 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R624 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R630 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R631 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R641 | 1-216-389-11 | METAL OXIDE | 1 | 5% | 3W F |
| R642 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R647 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R650 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R670 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R671 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R673 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R674 | 1-247-863-91 | CARBON | 22K | 5% | 1/4W |
| R675 | 1-215-859-00 | METAL OXIDE | 22 | 5% | 1W F |
| R690 | 1-216-355-11 | METAL OXIDE | 3.3 | 5% | 1W F |
| R691 | 1-249-395-11 | CARBON | 15 | 5% | 1/4W |
| R692 | 1-249-395-11 | CARBON | 15 | 5% | 1/4W |
| R699 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W F |

## RELAY

| | | | |
|---|---|---|---|
| RY601⚠ | 1-755-018-11 | RELAY | |
| RY602⚠ | 1-755-266-11 | RELAY, AC POWER | |

## SWITCH

| | | | |
|---|---|---|---|
| S001 | 1-692-431-21 | SWITCH, TACTILE | |
| S002 | 1-692-431-21 | SWITCH, TACTILE | |
| S003 | 1-692-431-21 | SWITCH, TACTILE | |
| S004 | 1-692-431-21 | SWITCH, TACTILE | |
| S005 | 1-692-431-21 | SWITCH, TACTILE | |
| S006 | 1-692-431-21 | SWITCH, TACTILE | |
| S007 | 1-692-431-21 | SWITCH, TACTILE | |

## SWITCH

| | | | |
|---|---|---|---|
| SW501 | 1-572-707-11 | SWITCH, LEVER | |

## TRANSFORMER

| | | | |
|---|---|---|---|
| T501 | 1-437-210-11 | TRANSFORMER, HORIZONTAL DRIVE | |
| T502 | 1-431-731-11 | TRANSFORMER, MODULATION | |
| T504 ⚠ | 1-453-268-11 | FLYBACK TRANSFORMER ASSY, NX-4005//X4J4 | |
| T602 ⚠ | 1-429-992-11 | TRANSFORMER, CONVERTER (PRT) | |
| T603 ⚠ | 1-431-837-11 | TRANSFORMER, CONVERTER (PIT) | |

## THERMISTOR

| | | | |
|---|---|---|---|
| THP601 | | VARIANT (SEE VARIANT PARTS LIST) | |

## TUNER

| | | | |
|---|---|---|---|
| TU101⚠ | 8-598-431-00 | TUNER, FSS | BTF-WA411 |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| | **VARISTOR** | | |
| VDR602 | 1-809-267-41 | VARISTOR ERZV10D471 | |
| | **CRYSTAL** | | |
| X300 | | VARIANT (SEE VARIANT PARTS LIST) | |
| X301 | 1-567-505-11 | OSCILLATOR, CRYSTAL | |
| X302 | | VARIANT (SEE VARIANT PARTS LIST) | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-27S40/29XL40M/29XL40P/29SL40

## A BOARD VARIANT LIST: KV-27S40/29XL40M/29XL40P/29SL40

### CAPACITOR

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| C307 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C309 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C314 | 1-163-003-11 | CERAMIC | 330PF | 10% | 50V |
| C320 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C321 | 1-163-133-00 | CERAMIC | 470PF | 5% | 50V |
| C323 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C324 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C350 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C351 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C352 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C353 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C354 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C355 | 1-164-222-11 | CERAMIC | 0.22MF | | 25V |
| C356 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C357 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C358 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C359 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C360 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C361 | 1-163-037-11 | CERAMIC | 0.022MF | 10% | 50V |
| C362 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C380 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C381 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C382 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |

### DIODE

| | | | |
|---|---|---|---|
| D002 | 8-719-070-80 | DIODE LNK0120022G | |

### FERRITE BEAD

| | | | |
|---|---|---|---|
| FB350 | 1-216-295-91 | SHORT | |

### IC

| | | | |
|---|---|---|---|
| IC301 | 8-752-083-09 | IC CXA2061S | |
| IC302 | 8-752-385-80 | IC CXD2073S | |

### JACK

| | | | |
|---|---|---|---|
| J201 | 1-774-749-11 | JACK BLOCK, PIN | |

### COIL

| | | | | | |
|---|---|---|---|---|---|
| L350 | 1-412-029-11 | INDUCTOR | 10UH | | |
| L351 | 1-412-031-11 | INDUCTOR | 47UH | | |

### TRANSISTOR

| | | | |
|---|---|---|---|
| Q350 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |
| Q351 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| Q352 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |
| Q353 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |
| Q354 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |
| Q355 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| Q356 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |
| Q357 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |
| Q358 | 8-729-422-27 | TRANSISTOR | 2SD601A-Q |
| Q359 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |
| Q360 | 8-729-216-22 | TRANSISTOR | 2SA1162-G |

### RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R307 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R308 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R317 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R318 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R320 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R321 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R322 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R334 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R350 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R351 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R352 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R353 | 1-216-295-91 | SHORT | | | |
| R354 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R355 | 1-216-295-91 | SHORT | | | |
| R357 | 1-216-091-00 | RES, CHIP | 56K | 5% | 1/10W |
| R358 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R359 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R361 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R362 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R363 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R364 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R365 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R366 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R367 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R368 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |

# A BOARD VARIANT PARTS LIST

**Note:**

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

The parts on this page belong to the following model(s) only:

KV-27S40/29XL40M/29XL40P/29SL40

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R369 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R372 | 1-216-035-00 | RES, CHIP | 270 | 5% | 1/10W |
| R373 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R374 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R375 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R376 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R377 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R378 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R379 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R380 | 1-208-790-11 | RES, CHIP | 2.2K | 0.50% | 1/10W |
| R381 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R601 ⚠ | 1-219-513-11 | CARBON | 4.7M | 5% | 1/2W |
| R602 ⚠ | 1-205-998-11 | CEMENTED | 1 | 5% | 10W |
| R603 ⚠ | 1-205-998-11 | CEMENTED | 1 | 5% | 10W |

**THERMISTOR**

| | | |
|---|---|---|
| THP601 | 1-809-539-11 | THERMISTOR, POSITIVE |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-29SL65C

## A BOARD VARIANT LIST: KV-29SL65C

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | **CAPACITOR** | | | | |
| C200 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C250 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C251 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C252 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C307 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C309 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C314 | 1-163-003-11 | CERAMIC | 330PF | 10% | 50V |
| C320 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C321 | 1-163-133-00 | CERAMIC | 470PF | 5% | 50V |
| C323 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C324 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C350 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C351 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C352 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C353 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C354 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C355 | 1-164-222-11 | CERAMIC | 0.22MF | | 25V |
| C356 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C357 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C358 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C359 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C360 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C361 | 1-163-037-11 | CERAMIC | 0.022MF | 10% | 50V |
| C362 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| | **CONNECTOR** | | | | |
| CN150 | 1-691-616-11 | CONNECTOR, BOARD TO BOARD 15P | | | |
| CN302 | 1-691-616-11 | CONNECTOR, BOARD TO BOARD 15P | | | |
| | **DIODE** | | | | |
| D002 | 8-719-070-80 | DIODE LNK0120022G | | | |
| | **FERRITE BEAD** | | | | |
| FB350 | 1-216-295-91 | SHORT | | | |
| | **IC** | | | | |
| IC010 | 8-759-710-85 | IC NJM2233BD | | | |
| IC301 | 8-752-083-09 | IC CXA2061S | | | |
| IC302 | 8-752-385-80 | IC CXD2073S | | | |

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | **JACK** | | | | |
| J201 | 1-774-751-11 | TERMINAL BLOCK, S | | | |
| J202 | 1-774-749-11 | JACK BLOCK, 3P | | | |
| | **COIL** | | | | |
| L350 | 1-412-029-11 | INDUCTOR | 10UH | | |
| L351 | 1-412-031-11 | INDUCTOR | 47UH | | |
| | **TRANSISTOR** | | | | |
| Q350 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q351 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q352 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q353 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q354 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q355 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q356 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q357 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q358 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q359 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q360 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| | **RESISTOR** | | | | |
| R278 | 1-216-295-91 | SHORT | | | |
| R307 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R308 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R317 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R318 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R320 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R321 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R322 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R334 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R350 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R351 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R352 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R353 | 1-216-295-91 | SHORT | | | |
| R354 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R355 | 1-216-295-91 | SHORT | | | |
| R357 | 1-216-091-00 | RES, CHIP | 56K | 5% | 1/10W |
| R358 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R359 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R361 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R362 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |

**Note:**

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-29SL65C

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R363 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R364 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R365 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R366 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R367 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R368 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R369 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R372 | 1-216-035-00 | RES, CHIP | 270 | 5% | 1/10W |
| R373 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R374 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R375 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R376 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R377 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R378 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R379 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R380 | 1-208-790-11 | RES, CHIP | 2.2K | 0.50% | 1/10W |
| R381 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R600 ⚠ | 1-247-289-00 | CARBON | 8.2M | 5% | 1W |
| R602 ⚠ | 1-205-997-11 | CEMENTED | 2.2 | 5% | 10W |
| R603 ⚠ | 1-205-997-11 | CEMENTED | 2.2 | 5% | 10W |

**THERMISTOR**

| | | |
|---|---|---|
| THP601 | 1-809-827-11 | THERMISTOR, POSITIVE |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-27S45/29SL45

## A BOARD VARIANT LIST: KV-27S45/29SL45

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | **CAPACITOR** | | | | |
| C200 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C307 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C309 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C314 | 1-163-003-11 | CERAMIC | 330PF | 10% | 50V |
| C320 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C321 | 1-163-133-00 | CERAMIC | 470PF | 5% | 50V |
| C323 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C324 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C350 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C351 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C352 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C353 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C354 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C355 | 1-164-222-11 | CERAMIC | 0.22MF | | 25V |
| C356 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C357 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C358 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C359 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C360 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C361 | 1-163-037-11 | CERAMIC | 0.022MF | 10% | 50V |
| C362 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| | **CONNECTOR** | | | | |
| CN302 | 1-691-616-11 | CONNECTOR, BOARD TO BOARD 15P | | | |
| | **DIODE** | | | | |
| D002 | 8-719-070-80 | DIODE LNK0120022G | | | |
| | **FERRITE BEAD** | | | | |
| FB350 | 1-216-295-91 | SHORT | | | |
| | **IC** | | | | |
| IC301 | 8-752-083-09 | IC CXA2061S | | | |
| IC302 | 8-752-385-80 | IC CXD2073S | | | |
| | **JACK** | | | | |
| J201 | 1-774-751-11 | TERMINAL BLOCK, S | | | |
| J202 | 1-774-749-11 | JACK BLOCK, 3P | | | |

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | **COIL** | | | | |
| L350 | 1-412-029-11 | INDUCTOR | 10UH | | |
| L351 | 1-412-031-11 | INDUCTOR | 47UH | | |
| | **TRANSISTOR** | | | | |
| Q350 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q351 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q352 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q353 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q354 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q355 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q356 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q357 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q358 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q359 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q360 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| | **RESISTOR** | | | | |
| R307 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R308 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R317 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R318 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R320 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R321 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R322 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R334 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R350 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R351 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R352 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R353 | 1-216-295-91 | SHORT | | | |
| R354 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R355 | 1-216-295-91 | SHORT | | | |
| R357 | 1-216-091-00 | RES, CHIP | 56K | 5% | 1/10W |
| R358 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R359 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R361 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R362 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R363 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R364 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R365 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R366 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R367 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R368 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |

Note:

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

Note:

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-27S45/29SL45

| REF.NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R369 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R372 | 1-216-035-00 | RES, CHIP | 270 | 5% | 1/10W |
| R373 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R374 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R375 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R376 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R377 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R378 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R379 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R380 | 1-208-790-11 | RES, CHIP | 2.2K | 0.50% | 1/10W |
| R381 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R601 ⚠ | 1-219-513-11 | CARBON | 4.7M | 5% | 1/2W |
| R602 ⚠ | 1-205-998-11 | CEMENTED | 1 | 5% | 10W |
| R603 ⚠ | 1-205-998-11 | CEMENTED | 1 | 5% | 10W |

**THERMISTOR**

| | | | | | |
|---|---|---|---|---|---|
| THP601 | 1-809-539-11 | THERMISTOR, POSITIVE | | | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-27S65/29SL65

## A BOARD VARIANT LIST: KV-27S65/29SL65

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | **CAPACITOR** | | | | |
| C200 | 1-136-161-00 | FILM | 0.047MF | 5% | 50V |
| C250 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C251 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C252 | 1-136-173-00 | FILM | 0.47MF | 5% | 50V |
| C307 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C309 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C314 | 1-163-003-11 | CERAMIC | 330PF | 10% | 50V |
| C320 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C321 | 1-163-133-00 | CERAMIC | 470PF | 5% | 50V |
| C323 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C324 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C350 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C351 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C352 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C353 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C354 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C355 | 1-164-222-11 | CERAMIC | 0.22MF | | 25V |
| C356 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C357 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C358 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C359 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C360 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C361 | 1-163-037-11 | CERAMIC | 0.022MF | 10% | 50V |
| C362 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| | **CONNECTOR** | | | | |
| CN150 | 1-691-616-11 | CONNECTOR, BOARD TO BOARD 15P | | | |
| CN302 | 1-691-616-11 | CONNECTOR, BOARD TO BOARD 15P | | | |
| | **DIODE** | | | | |
| D002 | 8-719-070-80 | DIODE LNK0120022G | | | |
| | **FERRITE BEAD** | | | | |
| FB350 | 1-216-295-91 | SHORT | | | |
| | **IC** | | | | |
| IC010 | 8-759-710-85 | IC NJM2233BD | | | |
| IC301 | 8-752-083-09 | IC CXA2061S | | | |
| IC302 | 8-752-385-80 | IC CXD2073S | | | |

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | **JACK** | | | | |
| J201 | 1-774-751-11 | TERMINAL BLOCK, S | | | |
| J202 | 1-774-749-11 | JACK BLOCK, 3P | | | |
| | **COIL** | | | | |
| L350 | 1-412-029-11 | INDUCTOR | 10UH | | |
| L351 | 1-412-031-11 | INDUCTOR | 47UH | | |
| | **TRANSISTOR** | | | | |
| Q350 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q351 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q352 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q353 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q354 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q355 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q356 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q357 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q358 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | | | |
| Q359 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| Q360 | 8-729-216-22 | TRANSISTOR 2SA1162-G | | | |
| | **RESISTOR** | | | | |
| R278 | 1-216-295-91 | SHORT | | | |
| R307 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R308 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R317 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R318 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R320 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R321 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R322 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R334 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R350 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R351 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R352 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R353 | 1-216-295-91 | SHORT | | | |
| R354 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R355 | 1-216-295-91 | SHORT | | | |
| R357 | 1-216-091-00 | RES, CHIP | 56K | 5% | 1/10W |
| R358 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R359 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R361 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R362 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |

Note:

The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.

Note:

Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-27S65/29SL65

| REF.NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| R363 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R364 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R365 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R366 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R367 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R368 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R369 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R372 | 1-216-035-00 | RES, CHIP | 270 | 5% | 1/10W |
| R373 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R374 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R375 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R376 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R377 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R378 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R379 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R380 | 1-208-790-11 | RES, CHIP | 2.2K | 0.50% | 1/10W |
| R381 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R601 ⚠ | 1-219-513-11 | CARBON | 4.7M | 5% | 1/2W |
| R602 ⚠ | 1-205-998-11 | CEMENTED | 1 | 5% | 10W |
| R603 ⚠ | 1-205-998-11 | CEMENTED | 1 | 5% | 10W |
| | **THERMISTOR** | | | | |
| THP601 | 1-809-539-11 | THERMISTOR | POSITIVE | | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-29SL40C

## A BOARD VARIANT LIST: KV-29SL40C

### CAPACITOR

| REF.NO. | PART NO. | DESCRIPTION | | REMARK | |
|---|---|---|---|---|---|
| C307 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C309 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C314 | 1-163-003-11 | CERAMIC | 330PF | 10% | 50V |
| C320 | 1-126-959-11 | ELECT | 0.47MF | 20% | 50V |
| C321 | 1-163-133-00 | CERAMIC | 470PF | 5% | 50V |
| C323 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C324 | 1-163-243-11 | CERAMIC | 47PF | 5% | 50V |
| C350 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C351 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C352 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C353 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C354 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C355 | 1-164-222-11 | CERAMIC | 0.22MF | | 25V |
| C356 | 1-163-038-91 | CERAMIC | 0.1MF | | 25V |
| C357 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C358 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C359 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C360 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C361 | 1-163-037-11 | CERAMIC | 0.022MF | 10% | 50V |
| C362 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C380 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C381 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C382 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |

### DIODE

| | | | |
|---|---|---|---|
| D002 | 8-719-070-80 | DIODE LNK0120022G | |

### FERRITE BEAD

| | | | |
|---|---|---|---|
| FB350 | 1-216-295-91 | SHORT | |

### IC

| | | | |
|---|---|---|---|
| IC301 | 8-752-083-09 | IC CXA2061S | |
| IC302 | 8-752-385-80 | IC CXD2073S | |

### JACK

| | | | |
|---|---|---|---|
| J201 | 1-774-749-11 | JACK BLOCK, PIN | |

### COIL

| | | | |
|---|---|---|---|
| L350 | 1-412-029-11 | INDUCTOR | 10UH |
| L351 | 1-412-031-11 | INDUCTOR | 47UH |

### TRANSISTOR

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| Q350 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q351 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q352 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q353 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q354 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q355 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q356 | 8-729-026-49 | TRANSISTOR 2SA1037AK-T146-R | |
| Q357 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q358 | 8-729-422-27 | TRANSISTOR 2SD601A-Q | |
| Q359 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q360 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |

### RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R307 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R308 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R317 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R318 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R320 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R321 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R322 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R334 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R350 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R351 | 1-208-766-11 | RES, CHIP | 220 | 0.50% | 1/10W |
| R352 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R353 | 1-216-295-91 | SHORT | | | |
| R354 | 1-208-794-11 | RES, CHIP | 3.3K | 0.50% | 1/10W |
| R355 | 1-216-295-91 | SHORT | | | |
| R357 | 1-216-091-00 | RES, CHIP | 56K | 5% | 1/10W |
| R358 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R359 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R361 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R362 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R363 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R364 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R365 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R366 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R367 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R368 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R369 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R372 | 1-216-035-00 | RES, CHIP | 270 | 5% | 1/10W |
| R373 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R374 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R375 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |

Note:

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

Note:

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-29SL40C

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R376 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R377 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R378 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R379 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R380 | 1-208-790-11 | RES, CHIP | 2.2K | 0.50% | 1/10W |
| R381 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R602 ⚠ | 1-205-997-11 | CEMENTED | 2.2 | 5% | 10W |
| R603 ⚠ | 1-205-997-11 | CEMENTED | 2.2 | 5% | 10W |
| | **THERMISTOR** | | | | |
| THP601 | 1-809-827-11 | THERMISTOR | POSITIVE | | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

# A BOARD VARIANT PARTS LIST

The parts on this page belong to the following model(s) only:

KV-29XT11A/29SL40A

**Note:**

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

## A BOARD VARIANT LIST: KV-29XT11A/20SL40A

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| | **CAPACITOR** | | | | |
| C300 | 1-163-099-00 | CERAMIC | 18PF | 5% | 50V |
| C302 | 1-163-099-00 | CERAMIC | 18PF | 5% | 50V |
| C309 | 1-163-017-00 | CERAMIC | 0.0047MF | 10% | 50V |
| C320 | 1-126-957-11 | ELECT | 0.22MF | 20% | 50V |
| C321 | 1-163-259-91 | CERAMIC | 220PF | 5% | 50V |
| C380 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C381 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| C382 | 1-164-232-11 | CERAMIC | 0.01MF | 10% | 50V |
| | **DIODE** | | | | |
| D002 | 8-719-070-79 | DIODE LNK0120022G1 | | | |
| | **IC** | | | | |
| IC301 | 8-752-082-35 | IC CXA2060AS | | | |
| | **JACK** | | | | |
| J201 | 1-774-749-11 | JACK BLOCK, PIN | | | |
| | **RESISTOR** | | | | |
| R064 | 1-216-295-91 | SHORT | | | |
| R081 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R300 | 1-216-295-91 | SHORT | | | |
| R302 | 1-216-295-91 | SHORT | | | |
| R307 | 1-216-051-00 | RES, CHIP | 1.2K | 5% | 1/10W |
| R600 ⚠ | 1-247-289-00 | CARBON | 8.2M | 5% | 1W |
| R602 ⚠ | 1-205-997-11 | CEMENTED | 2.2 | 5% | 10W |
| R603 ⚠ | 1-205-997-11 | CEMENTED | 2.2 | 5% | 10W |
| | **THERMISTOR** | | | | |
| THP601 | 1-809-827-11 | THERMISTOR, POSITIVE | | | |
| | **CRYSTAL** | | | | |
| X300 | 1-579-972-11 | VIBRATOR, CRYSTAL | | | |
| X302 | 1-579-973-11 | VIBRATOR, CRYSTAL | | | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

Note:

The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.

Note:

Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.

## COMPLETE PARTS LISTING C E

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|

## C

*** A-1331-775-A C BOARD, COMPLETE (all models)**

### CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C1751 | 1-107-652-11 | ELECT | 10MF | 20% | 250V |
| C1752 | 1-162-114-00 | CERAMIC | 0.0047MF | | 2KV |

### CONNECTOR

| | | |
|---|---|---|
| CN1751* | 1-564-509-11 | PLUG, CONNECTOR 6P |
| CN1752* | 1-564-509-11 | PLUG, CONNECTOR 6P |
| CN1753 | 1-695-915-11 | TAB (CONTACT) |
| CN1754 | 1-695-915-11 | TAB (CONTACT) |

### DIODE

| | | |
|---|---|---|
| D1751 | 8-719-110-08 | DIODE RD8.2ESB2 |
| D1752 | 8-719-991-33 | DIODE 1SS133T-77 |
| D1753 | 8-719-991-33 | DIODE 1SS133T-77 |
| D1754 | 8-719-901-83 | DIODE 1SS83 |
| D1755 | 8-719-901-83 | DIODE 1SS83 |
| D1756 | 8-719-901-83 | DIODE 1SS83 |

### IC

| | | |
|---|---|---|
| IC1751 | 8-759-535-08 | IC TDA6108Q |
| | 4-382-854-11 | SCREW (M3X10), P, SW (+) (for IC1751) |

### JACK

| | | |
|---|---|---|
| J1751 ⚠ | 1-251-688-11 | SOCKET, CRT |

### COIL

| | | | |
|---|---|---|---|
| L1751 | 1-408-613-31 | INDUCTOR | 68UH |

### TRANSISTOR

| | | |
|---|---|---|
| Q1751 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE |

### RESISTOR

| | | | | | |
|---|---|---|---|---|---|
| R1751 | 1-249-441-11 | CARBON | 100K | 5% | 1/4W |
| R1752 | 1-249-427-11 | CARBON | 6.8K | 5% | 1/4W |
| R1753 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R1754 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R1755 | 1-249-413-11 | CARBON | 470 | 5% | 1/4W |
| R1756 | 1-260-099-11 | CARBON | 1K | 5% | 1/2W |
| R1757 | 1-260-099-11 | CARBON | 1K | 5% | 1/2W |
| R1758 | 1-260-099-11 | CARBON | 1K | 5% | 1/2W |
| R1759 | 1-260-087-11 | CARBON | 100 | 5% | 1/2W |
| R1760 | 1-260-123-11 | CARBON | 100K | 5% | 1/2W |
| R1761 | 1-216-373-11 | METAL OXIDE | 2.2 | 5% | 2WF |
| R1762 | 1-216-375-00 | METAL OXIDE | 3.3 | 5% | 2WF |
| R1763 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R1764 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R1765 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |

## E

***A-1343-525-A E BOARD, COMPLETE** **(KV-27S45, 29SL45, 27S40, 29XL40M, 29XL40P, 29SL40, 27S65, 29SL65)**

***A-1343-526-A E BOARD, COMPLETE** **(KV-29SL65C, 29SL40C, 29XT11A, 29SL40A)**

### CAPACITOR

| | | | | | |
|---|---|---|---|---|---|
| C5000 | 1-107-652-11 | ELECT | 10MF | 20% | 250V |
| C5002 | 1-107-652-11 | ELECT | 10MF | 20% | 250V |
| C5003 | 1-136-601-11 | FILM | 0.01MF | 10% | 630V |
| C5004 | 1-130-471-00 | MYLAR | 0.001MF | 5% | 50V |
| C5006 | 1-130-471-00 | MYLAR | 0.001MF | 5% | 50V |
| C5007 | 1-130-467-00 | MYLAR | 470PF | 5% | 50V |
| C5008 | 1-130-471-00 | MYLAR | 0.001MF | 5% | 50V |
| C5009 | 1-126-965-11 | ELECT | 22MF | 20% | 50V |
| C5010 | 1-115-804-91 | ELECT | 120MF | 20% | 35V |
| C5020 ⚠ | 1-113-941-11 | CERAMIC | 0.0047MF | 20% | 125V |
| C5050 ⚠ | 1-136-311-51 | FILM | 0.47MF | 20% | 125V |
| (KV-27S40/27S45/27S65/29SL40/29SL45/29SL65/29XL40M/29XL40P only) | | | | | |
| C5050 ⚠ | 1-136-311-61 | FILM | 0.47MF | 20% | 300V |
| (KV-29SL40A/29SL40C/29SL65C/29XT11A only) | | | | | |

### CONNECTOR

| | | |
|---|---|---|
| CN5000* | 1-580-843-11 | PIN, CONNECTOR (POWER) |
| CN5001* | 1-564-506-11 | PLUG, CONNECTOR 3P |
| CN5002* | 1-580-844-11 | PIN, CONNECTOR (POWER) |
| CN5003 | 1-508-786-00 | PIN, CONNECTOR (5MM PITCH) 2P |

### DIODE

| | | |
|---|---|---|
| D5001 | 8-719-911-55 | DIODE U05G |
| D5002 | 8-719-911-55 | DIODE U05G |
| D5003 | 8-719-055-18 | DIODE ERA22-08TP3 |
| D5004 | 8-719-991-33 | DIODE 1SS133T-77 |
| D5005 | 8-719-991-33 | DIODE 1SS133T-77 |

# E K COMPLETE PARTS LISTING

**Note:**
**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**
**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|
| D5006 | 8-719-109-93 | DIODE RD6.2ESB2 | |
| D5007 | 8-719-510-48 | DIODE D1N20R | |
| D5008 | 8-719-510-26 | DIODE D1NL20-TA | |

**FUSE**

| | | | |
|---|---|---|---|
| F5050 ⚠ | 1-576-193-11 | FUSE 6.3A/125V | |
| (KV-27S40/27S45/27S65/29SL40/29SL45/29SL65/29XL40M/29XL40P only) | | | |
| F5050 ⚠ | 1-532-506-51 | FUSE 6.3A/250V | |
| (KV-29SL40A/29SL40C/29SL65C/29XT11A only) | | | |

**TRANSISTOR**

| | | | |
|---|---|---|---|
| Q5001 | 8-729-044-30 | TRANSISTOR 2SK2845-LB102 | |
| Q5002 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |

**RESISTOR**

| | | | | | |
|---|---|---|---|---|---|
| R5001 | 1-249-389-11 | CARBON | 4.7 | 5% | 1/4WF |
| R5002 | 1-215-485-00 | METAL | 470K | 1% | 1/4W |
| R5003 | 1-240-205-91 | CARBON | 22M | 5% | 1/2W |
| R5007 | 1-249-421-11 | CARBON | 2.2K | 5% | 1/4W |
| R5008 | 1-249-429-11 | CARBON | 10K | 5% | 1/4W |
| R5009 | 1-249-437-11 | CARBON | 47K | 5% | 1/4W |
| R5010 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R5011 | 1-260-302-51 | CARBON | 6.8 | 5% | 1/2W |
| R5012 | 1-249-417-11 | CARBON | 1K | 5% | 1/4W |
| R5013 | 1-249-415-11 | CARBON | 680 | 5% | 1/4W |
| R5050 | 1-219-512-11 | CARBON | 2.2M | 5% | 1/2W |

**TRANSFORMER**

| | | | |
|---|---|---|---|
| T5001 ⚠ | 1-431-852-11 | TRANSFORMER, CONVERTER (SRT) | |
| T5050 ⚠ | 1-426-717-11 | TRANSFORMER, LINE FILTER (LFT) | |

**VARISTOR**

| | | | |
|---|---|---|---|
| VDR5050 | 1-801-074-41 | VARISTOR ERZV10D271 | |
| (KV-27S40/27S45/27S65/29SL40/29SL45/29SL65/29XL40M/29XL40P only) | | | |
| VDR5050 | 1-809-267-41 | VARISTOR ERZV10D471 | |
| (KV-29SL40A/29SL40C/29SL65C/29XT11A only) | | | |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

## K

*** A-1380-579-A K BOARD, COMPLETE (KV-29SL65C, 27S65, 29SL65)**

**CAPACITOR**

| | | | | | |
|---|---|---|---|---|---|
| C1001 | 1-126-968-11 | ELECT | 100MF | 20% | 50V |
| C1002 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C1003 | 1-126-964-11 | ELECT | 10MF | 20% | 50V |
| C1004 | 1-126-969-11 | ELECT | 220MF | 20% | 50V |
| C1005 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C1006 | 1-137-368-11 | FILM | 0.0047MF | 5% | 50V |
| C1007 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |

**CONNECTOR**

| | | | |
|---|---|---|---|
| CN1001* | 1-691-632-11 | CONNECTOR, BOARD TO BOARD 15P | |
| CN1002* | 1-564-507-11 | PLUG, CONNECTOR 4P | |

**COIL**

| | | | |
|---|---|---|---|
| L1001 | 1-408-421-00 | INDUCTOR | 100UH |
| L1002 | 1-410-470-11 | INDUCTOR | 10UH |

**TRANSISTOR**

| | | | |
|---|---|---|---|
| Q1001 | 8-729-119-78 | TRANSISTOR 2SC2785-HFE | |
| Q1002 | 8-729-026-41 | TRANSISTOR 2SA933AS-QRT | |
| Q1003 | 8-729-026-41 | TRANSISTOR 2SA933AS-QRT | |
| Q1004 | 8-729-026-41 | TRANSISTOR 2SA933AS-QRT | |
| Q1005 | 8-729-026-41 | TRANSISTOR 2SA933AS-QRT | |

**RESISTOR**

| | | | | | |
|---|---|---|---|---|---|
| R1001 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R1002 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R1003 | 1-249-434-11 | CARBON | 27K | 5% | 1/4W |
| R1004 | 1-249-436-11 | CARBON | 39K | 5% | 1/4W |
| R1006 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |
| R1007 | 1-247-863-91 | CARBON | 22K | 5% | 1/4W |
| R1008 | 1-247-863-91 | CARBON | 22K | 5% | 1/4W |
| R1009 | 1-247-863-91 | CARBON | 22K | 5% | 1/4W |
| R1010 | 1-247-863-91 | CARBON | 22K | 5% | 1/4W |
| R1011 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R1012 | 1-249-414-11 | CARBON | 560 | 5% | 1/4W |
| R1013 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R1014 | 1-247-807-31 | CARBON | 100 | 5% | 1/4W |
| R1015 | 1-249-419-11 | CARBON | 1.5K | 5% | 1/4W |

**TUNER**

| | | | |
|---|---|---|---|
| TU1002 ⚠ | 8-598-430-00 | TUNER, FSS BTF-FA401 | |

P

***A-1190-306-A P BOARD, COMPLETE (KV-27S45, 29SL45, 29SL65C, 27S65, 29SL65)**

**CAPACITOR**

| REF.NO. | PART NO. | DESCRIPTION | | | |
|---|---|---|---|---|---|
| C3319 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3320 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C3321 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C3322 | 1-163-239-11 | CERAMIC CHIP | 33PF | 5% | 50V |
| C3323 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3324 | 1-126-967-11 | ELECT | 47MF | 20% | 16V |
| C3328 | 1-126-967-11 | ELECT | 47MF | 20% | 16V |
| C3329 | 1-126-967-11 | ELECT | 47MF | 20% | 16V |
| C3330 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3331 | 1-126-967-11 | ELECT | 47MF | 20% | 16V |
| C3332 | 1-104-664-11 | ELECT | 47MF | 20% | 25V |
| C3334 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3335 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C3336 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C3337 | 1-164-005-11 | CERAMIC CHIP | 0.47MF | | 25V |
| C3340 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3346 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C3347 | 1-126-960-11 | ELECT | 1MF | 20% | 50V |
| C3348 | 1-126-967-11 | ELECT | 47MF | 20% | 16V |
| C3350 | 1-163-259-91 | CERAMIC CHIP | 220PF | 5% | 50V |
| C3352 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3353 | 1-164-346-11 | CERAMIC CHIP | 1MF | | 16V |
| C3354 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3355 | 1-126-967-11 | ELECT | 47MF | 20% | 16V |
| C3359 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C3360 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C3361 | 1-163-038-91 | CERAMIC CHIP | 0.1MF | | 25V |
| C3362 | 1-126-967-11 | ELECT | 47MF | 20% | 16V |
| C3363 | 1-163-031-11 | CERAMIC CHIP | 0.01MF | | 50V |
| C3364 | 1-163-231-11 | CERAMIC CHIP | 15PF | 5% | 50V |
| C3365 | 1-163-133-00 | CERAMIC CHIP | 470PF | 5% | 50V |
| C3366 | 1-164-005-11 | CERAMIC CHIP | 0.47MF | | 25V |
| C3367 | 1-126-963-11 | ELECT | 4.7MF | 20% | 50V |
| C3368 | 1-164-005-11 | CERAMIC CHIP | 0.47MF | | 25V |
| C3369 | 1-163-251-11 | CERAMIC CHIP | 100PF | 5% | 50V |
| C3370 | 1-164-346-11 | CERAMIC CHIP | 1MF | | 16V |
| C3371 | 1-163-017-00 | CERAMIC CHIP | 0.0047MF | 10% | 50V |
| C3372 | 1-164-005-11 | CERAMIC CHIP | 0.47MF | | 25V |

**CONNECTOR**

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| CN3301* | 1-691-632-11 | CONNECTOR, BOARD TO BOARD 15P |

**IC**

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| IC3302 | 8-759-231-53 | IC TA7805S |
| IC3303 | 8-759-438-61 | IC SDA9288X-A141 |
| IC3304 | 8-752-078-83 | IC CXA2019Q |

**COIL**

| REF.NO. | PART NO. | DESCRIPTION | |
|---|---|---|---|
| L3302 | 1-410-473-11 | INDUCTOR | 18UH |

**TRANSISTOR**

| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| Q3301 | 8-729-422-27 | TRANSISTOR 2SD601A-Q |
| Q3307 | 8-729-422-27 | TRANSISTOR 2SD601A-Q |
| Q3309 | 8-729-422-27 | TRANSISTOR 2SD601A-Q |
| Q3310 | 8-729-422-27 | TRANSISTOR 2SD601A-Q |
| Q3312 | 8-729-216-22 | TRANSISTOR 2SA1162-G |
| Q3314 | 8-729-216-22 | TRANSISTOR 2SA1162-G |

**RESISTOR**

| REF.NO. | PART NO. | DESCRIPTION | | | |
|---|---|---|---|---|---|
| R3301 | 1-216-295-91 | SHORT | | | |
| R3302 | 1-216-295-91 | SHORT | | | |
| R3312 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R3313 | 1-216-295-91 | SHORT | | | |
| R3314 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R3322 | 1-216-295-91 | SHORT | | | |
| R3324 | 1-216-295-91 | SHORT | | | |
| R3329 | 1-216-069-00 | RES, CHIP | 6.8K | 5% | 1/10W |
| R3330 | 1-216-035-00 | RES, CHIP | 270 | 5% | 1/10W |
| R3331 | 1-216-295-91 | SHORT | | | |
| R3335 | 1-216-295-91 | SHORT | | | |
| R3337 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R3338 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R3339 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R3340 | 1-216-041-00 | RES, CHIP | 470 | 5% | 1/10W |
| R3341 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R3342 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R3343 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R3344 | 1-216-065-91 | RES, CHIP | 4.7K | 5% | 1/10W |
| R3346 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |

**Note:**

**The components identified with shading and a critical symbol ( ⚠ ) are critical for safety. Replace only with part number specified.**

**Note:**

**Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.**

| REF.NO. | PART NO. | DESCRIPTION | | | REMARK |
|---|---|---|---|---|---|
| R3347 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R3352 | 1-216-049-91 | RES, CHIP | 1K | 5% | 1/10W |
| R3358 | 1-216-295-91 | SHORT | | | |
| R3360 | 1-216-295-91 | SHORT | | | |
| R3362 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R3363 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R3364 | 1-216-043-91 | RES, CHIP | 560 | 5% | 1/10W |
| R3369 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R3370 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R3371 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R3375 | 1-216-037-00 | RES, CHIP | 330 | 5% | 1/10W |
| R3376 | 1-216-071-00 | RES, CHIP | 8.2K | 5% | 1/10W |
| R3377 | 1-216-073-00 | RES, CHIP | 10K | 5% | 1/10W |
| R3378 | 1-216-053-00 | RES, CHIP | 1.5K | 5% | 1/10W |
| R3379 | 1-216-077-00 | RES, CHIP | 15K | 5% | 1/10W |
| R3380 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R3381 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R3382 | 1-216-057-00 | RES, CHIP | 2.2K | 5% | 1/10W |
| R3383 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R3384 | 1-216-033-00 | RES, CHIP | 220 | 5% | 1/10W |
| R3385 | 1-216-109-00 | RES, CHIP | 330K | 5% | 1/10W |
| R3387 | 1-216-295-91 | SHORT | | | |
| R3388 | 1-216-295-91 | SHORT | | | |
| R3392 | 1-216-295-91 | SHORT | | | |
| R3393 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R3394 | 1-216-025-91 | RES, CHIP | 100 | 5% | 1/10W |
| R3395 | 1-216-061-00 | RES, CHIP | 3.3K | 5% | 1/10W |
| R3401 | 1-216-295-91 | SHORT | | | |

**CRYSTAL**

| | | |
|---|---|---|
| X3302 | 1-760-095-21 | VIBRATOR, CRYSTAL |
| X3303 | 1-577-611-11 | OSCILALTOR, CERAMIC |
| X3304 | 1-567-505-11 | OSCILLATOR, CRYSTAL |

| REF.NO. | PART NO. | DESCRIPTION | REMARK |
|---|---|---|---|

## HZ

***A-1372-117-A HZ BOARD, COMPLETE (KV-29XT11A, 29SL40A)**

**CONNECTOR**

| | | | |
|---|---|---|---|
| CN901 | * | 1-580-843-11 | PIN, CONNECTOR (POWER) |
| CN902 | * | 1-580-843-11 | PIN, CONNECTOR (POWER) |

**SWITCH**

| | | | |
|---|---|---|---|
| S901 | ⚠ | 1-571-433-21 | SWITCH, PUSH (AC POWER) |

**ACCESSORIES AND PACKING MATERIAL**

| | | | |
|---|---|---|---|
| 3-861-824-41 | | MANUAL, INSTRUCTION | KV-29XT11A/29SL40A (only) |
| 3-861-907-21 | | MANUAL, INSTRUCTION | KV-27S40/27S45/27S65 (US models only) |
| 3-861-907-31 | | MANUAL, INSTRUCTION | KV-27S40/27S45/27S65 (CND models only) |
| 3-861-918-41 | | MANUAL, INSTRUCTION | KV-29SL40/29XL40M/29XL40P/29SL40C/ 29SL45/29SL65C/29SL65 (only) |
| 4-041-255-01 | * | BAG, PROTECTION | |
| 4-064-061-01 | * | CARTON, INDIVIDUAL | KV-29XL40M/29XT11A (only) |
| 4-064-062-01 | * | CARTON, INDIVIDUAL | KV-29SL40/29SL40C/29SL45/29SL65C/ 29SL65/29SL40A (only) |
| 4-064-063-01 | * | CARTON, INDIVIDUAL | KV-29XL40P (only) |
| 4-064-065-01 | * | CARTON, INDIVIDUAL | KV-27S40/27S45/27S65 (only) |
| 4-064-069-01 | * | CUSHION ASSY, UPPER | |
| 4-064-071-01 | * | CUSHION ASSY, LOWER | |

**REMOTE COMMANDER**

| | | |
|---|---|---|
| 1-475-801-11 | REMOTE COMMANDER (RM- Y165) | KV-27S40/29SL40/29XL40M/ 29XL40P/29XT11A/29SL40C/ 29SL40A (only) |
| 1-475-802-11 | REMOTE COMMANDER (RM-Y167) | KV-27S45/27S65/29SL45/ 29SL65C/29SL65 (only) |
| 4-978-977-01 | BATTERY COVER (for remote) | |

**Sony Corporation**
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**Product Quality Division**
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